

A G E N D A

REGULAR MEETING OF THE MAYOR AND BOARD OF TRUSTEES OF THE VILLAGE OF WILLOWBROOK TO BE HELD ON MONDAY, JUNE 27, 2016, AT 6:30 P.M. AT THE **BURR RIDGE POLICE DEPARTMENT TRAINING ROOM, 7700 COUNTY LINE ROAD, BURR RIDGE, DUPAGE COUNTY, ILLINOIS**

1. CALL TO ORDER
2. ROLL CALL
3. PLEDGE OF ALLEGIANCE
4. VISITOR'S BUSINESS - Public comment is limited to three minutes per person
5. OMNIBUS VOTE AGENDA:
 - a. Waive Reading of Minutes (APPROVE)
 - b. Minutes - Regular Board Meeting - June 13, 2016 (APPROVE)
 - c. Warrants - \$369,354.68 (APPROVE)
 - d. Ordinance - An Ordinance Amending Title 3, Chapter 12, Section 3-12-5(B) of the Village Code - Classifications, Class B License (PASS)

NEW BUSINESS

6. DELINQUENT WATER BILLS
7. ORDINANCE - AN ORDINANCE PROPOSING A BUSINESS DISTRICT PLAN AND THE DESIGNATION OF THE ROUTE 83/PLAINFIELD ROAD BUSINESS DISTRICT AND CALLING A PUBLIC HEARING IN CONNECTION THEREWITH
8. RESOLUTION - A RESOLUTION AUTHORIZING THE MAYOR AND VILLAGE CLERK OF THE VILLAGE OF WILLOWBROOK TO ENTER INTO AN AT-RISK CONSTRUCTION AGREEMENT WITH PULTE HOME CORPORATION TO BEGIN DEMOLITION, MASS GRADING AND INSTALLATION OF STORM IMPROVEMENTS (HEREINAFTER CUMULATIVELY REFERENCED AS "AT RISK CONSTRUCTION")- 6256 CLARENDON HILLS ROAD - CARRINGTON CLUB BY PULTE (REDEVELOPMENT OF ARABIAN KNIGHTS HORSE FARM)
9. RESOLUTION - A RESOLUTION AUTHORIZING THE EXECUTION OF A LETTER OF INTENT TO PARTICIPATE IN THE DUPAGE JUDICIAL INFORMATION SYSTEM (DuJIS)

10. ORDINANCE - AN ORDINANCE AUTHORIZING THE MAYOR AND VILLAGE CLERK TO ACCEPT AND EXECUTE A PROPOSAL FOR HOTEL TROLLEY SHUTTLE SERVICES - THE TROLLEY CAR & BUS COMPANY

PRIOR BUSINESS

11. COMMITTEE REPORTS
12. ATTORNEY'S REPORT
13. CLERK'S REPORT
14. ADMINISTRATOR'S REPORT
15. MAYOR'S REPORT
16. CLOSED SESSION
17. ADJOURNMENT

MINUTES OF THE REGULAR MEETING OF THE MAYOR AND BOARD OF TRUSTEES OF THE VILLAGE OF WILLOWBROOK HELD ON MONDAY, JUNE 13, 2016 AT THE BURR RIDGE POLICE DEPARTMENT, TRAINING ROOM, 7700 COUNTY LINE ROAD, VILLAGE OF BURR RIDGE, DUPAGE COUNTY, ILLINOIS.

1. CALL TO ORDER

The meeting was called to order at the hour of 6:30 p.m. by Mayor Frank Trilla.

2. ROLL CALL

Those present at roll call were Mayor Frank Trilla, Trustees Sue Berglund, Umberto Davi, Terrence Kelly, Michael Mistele, Gayle Neal, and Paul Oggerino.

ABSENT: Village Clerk Leroy Hansen

Also present were Village Attorney Thomas Bastian, Village Administrator Timothy Halik, Director of Finance Carrie Dittman, Chief Mark Shelton, Planning Consultant JoEllen Charlton, Planning Consultant Anna Franco, Assistant to the Village Administrator Garrett Hummel, Deputy Clerk Cindy Stuchl, and Administrative Intern Tiffany Kolodziej.

A QUORUM WAS DECLARED

3. PLEDGE OF ALLEGIANCE

Mayor Trilla asked Planning Consultant Charlton to lead everyone in saying the Pledge of Allegiance.

4. VISITORS' BUSINESS

None presented.

5. OMNIBUS VOTE AGENDA

- a. Waive Reading of Minutes (APPROVE)
- b. Minutes - Regular Board Meeting - May 23, 2016 (APPROVE)
- c. Warrants - \$436,010.78 (APPROVE)
- d. Monthly Financial Report - May 31, 2016 (APPROVE)
- e. Ordinance - Annual Appropriation Ordinance, Village of Willowbrook, DuPage County, Illinois, for the Fiscal Year Beginning May 1, 2016 and ending April 30, 2017" - Ordinance No. 16-O-22 (PASS)
- f. Plan Commission Recommendation - Zoning Hearing Case 16-06: Petition for a Special Use Permit and other Relief as may be Required to Allow a 1,504 Square Foot

- Restaurant to Operate in Unit Number 858 in the Willowbrook Plaza Shopping Center located at 858 75th Street, Willowbrook - Taste of Sham (RECEIVE)
- g. Plan Commission Recommendation - Zoning Hearing Case 16-08: Petition for Parking Setback Variations, a Landscape Variation, and other Relief as may be Required in order to allow Building Alterations in an M-1 zoning District - 7510 S. Madison Street - Morgan Harbour Construction, LLC (RECEIVE)

Mayor Trilla asked the Board if there were any items to be removed from the Omnibus Vote Agenda.

MOTION: Made by Trustee Davi and seconded by Trustee Mistele to approve the Omnibus Vote Agenda as presented.

ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele, Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

NEW BUSINESS

6. ORDINANCE - AN ORDINANCE GRANTING A SPECIAL USE FOR A PLANNED UNIT DEVELOPMENT, INCLUDING APPROVAL OF PRELIMINARY PLAT OF PUD, GRANTING CERTAIN WAIVERS FROM THE ZONING ORDINANCE, GRANTING CERTAIN VARIATIONS FROM THE SUBDIVISION REGULATIONS, GRANTING APPROVAL OF A PRELIMINARY PLAT OF SUBDIVISION, AND RELATED MATTERS - PC 16-04: 6256 CLARENDON HILLS ROAD - CARRINGTON CLUB BY PULTE (REDEVELOPMENT OF THE ARABIAN KNIGHTS HORSE FARM PROPERTY)

Planning Consultant Charlton related that this item is a preliminary PUD and subdivision approval for the Arabian Knights Farm property redevelopment. Final plans will still need to be submitted and reviewed by the Village Engineer and go through the Plan Commission process. Another adopting ordinance will then be brought forth for the Board's approval.

A provision has been included for an early grading permit and "critter abatement" for the property. This will allow the builder to begin demolition, early grading, and storm water management issues.

Trustee Neal asked when construction would begin on the project. Mr. Rob Getts from Pulte Homes advised that he anticipates the early grading to begin in two weeks and construction two weeks after that.

MOTION: Made by Trustee Berglund and seconded by Trustee Oggerino to pass Ordinance 16-O-23 as presented.

PREVIOUS ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele, Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

7. ORDINANCE - AN ORDINANCE GRANTING A SPECIAL USE PERMIT FOR A 1,504 SQUARE FOOT RESTAURANT, 858 75TH STREET (WILLOWBROOK PLAZA SHOPPING CENTER) - TASTE OF SHAM

Administrative Intern Kolodziej advised that this restaurant serves Mediterranean food. This type of restaurant is currently not available in Willowbrook. The closest is in Unincorporated DuPage County south of 91st Street and Kingery Highway.

The Plan Commission has recommended the approval of this ordinance.

MOTION: Made by Trustee Davi and seconded by Trustee Mistele to pass Ordinance 16-O-24 as presented.

PREVIOUS ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele, Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

8. ORDINANCE - AN ORDINANCE GRANTING CERTAIN VARIATIONS FROM THE ZONING ORDINANCE - 7510 S. MADISON STREET - MORGAN HARBOUR CONSTRUCTION HEADQUARTERS

Planning Consultant Franco related that this Chicago-based general contractor is looking to move their headquarters from Woodridge to Willowbrook. The applicant will be removing a portion of the building to increase parking spaces. They will also add landscaping, a dumpster enclosure, and additional storm sewers.

The Plan Commission has recommended the approval of this ordinance.

MOTION: Made by Trustee Mistele and seconded by Trustee Neal to pass Ordinance 16-O-24 as presented.

PREVIOUS ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele, Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

PRIOR BUSINESS

9. COMMITTEE REPORTS

Trustee Neal had no report.

Trustee Kelly had no report.

Trustee Mistele had no report.

Trustee Berglund had no report.

Trustee Davi had no report.

Trustee Oggerino had no report.

10. ATTORNEY'S REPORT

Attorney Bastian had no report.

11. CLERK'S REPORT

Deputy Clerk Stuchl had no report.

12. ADMINISTRATOR'S REPORT

Administrator Halik turned the floor over to Chief Shelton. Chief Shelton invited the Board to the annual Senior Bingo event which will be held at Ashton Place on Thursday, June 16th.

Administrator Halik advised that he will be out of town the next week and Director Dittman and Chief Shelton will be in charge during his absence.

13. MAYOR'S REPORT

Mayor Trilla had no report.

14. EXECUTIVE SESSION

- a. Consideration of the Discipline, Performance, or Dismissal of Specific Employees of the Public Body, Including Hearing Testimony on a complaint Lodge Against an Employee of the Public Body for the Public Body to

Determine its Validity Pursuant to Chapter 5 ILCS
120/1(C) (1)

RECESS INTO CLOSED SESSION

MOTION: Made by Trustee Mistele and seconded by Trustee Kelly to
recess into Closed Session at the hour of 6:53 p.m.

ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele,
Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

The Board reconvened the Regular Meeting at the hour of 7:20 p.m.

15. ADJOURNMENT

MOTION: Made by Trustee Mistele and seconded by Trustee Davi, to
adjourn the Regular Meeting at the hour of 7:21 p.m.

ROLL CALL VOTE: AYES: Trustees Berglund, Davi, Kelly, Mistele,
Neal, and Oggerino. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

PRESENTED, READ and APPROVED.

June 27, 2016.

Mayor

Minutes transcribed by Deputy Clerk Cindy Stuchl.

WARRANTS

June 27, 2016

GENERAL CORPORATE FUND	-----	\$140,533.31
WATER FUND	-----	190,686.89
HOTEL/MOTEL TAX FUND	-----	2,500.00
WATER CAPITAL IMPROVEMENTS FUND	-----	7,439.53
L.A.F.E.R FUND		28,194.95
TOTAL WARRANTS	-----	\$369,354.68



Carrie Dittman, Director of Finance

APPROVED:

Frank A. Trilla, Mayor

CHECK DISBURSEMENT REPORT FOR WILLOWBROOK
CHECK DATE FROM 06/15/2016 - 06/28/2016

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 01 GENERAL FUND								
06/28/2016	APCHK	88874	9936283329	AIRGAS USA LLC	EQUIPMENT RENTAL	750-290	35	68.20
06/28/2016	APCHK	88875	120030	AMERICAN TRAFFIC SOLUTIONS	RED LIGHT - CAMERA FEES	630-247	30	13,485.00
			120030	CHECK APCHK 88875 TOTAL FOR	RED LIGHT - MISC FEE	630-249	30	2,643.00
								16,128.00
06/28/2016	APCHK	88877	136940	BENTLEY'S PET STUFF - WB	OPERATING EQUIPMENT	630-401	30	145.37
06/28/2016	APCHK	88878	10613/JUN 16	BLACK GOLD SEPTIC	MAINTENANCE - PW BUILDING	725-418	35	310.00
06/28/2016	APCHK	88879**	16-237	CAR REFLECTIONS	NEW VEHICLES	680-625	30	1,300.00
			16-238	CHECK APCHK 88879 TOTAL FOR	NEW VEHICLES	680-625	30	1,800.00
								3,100.00
06/28/2016	APCHK	88880	14264	CHICAGO BADGE & INSIGNIA CO	UNIFORMS	630-345	30	237.55
06/28/2016	APCHK	88881**	129611	CHRISTOPHER B. BURKE	PLAN REVIEW - ENGINEERING - REIMB.	520-254	15	1,059.00
			129614		PLAN REVIEW - ENGINEERING - REIMB.	520-254	15	682.00
			129615		PLAN REVIEW - ENGINEERING - REIMB.	520-254	15	144.50
			129600		PLAN REVIEW - PLANNER	520-257	15	16,042.68
			129599		FEES - ENGINEERING	720-245	35	7,050.50
			129610		FEES - ENGINEERING	720-245	35	987.32
			129616		FEES - ENGINEERING	720-245	35	7,437.68
			129618		FEES - DRAINAGE ENGINEER	820-246	40	209.00
			129617		PLAN REVIEW - ENGINEER - REIMB.	820-254	40	254.50
			129613		PLAN REVIEW - DRAINAGE ENGINEER -	820-259	40	830.18
			129619		PLAN REVIEW - DRAINAGE ENGINEER -	820-259	40	385.00
			129620		PLAN REVIEW - DRAINAGE ENGINEER -	820-259	40	144.50
				CHECK APCHK 88881 TOTAL FOR				35,226.86
06/28/2016	APCHK	88882	2236/JUN 2016	CITY WIDE OF ILLINOIS	MAINTENANCE - BUILDING	466-228	10	2,515.74
06/28/2016	APCHK	88883	6356478 JUL 2016	CLARKE ENVIRONMENTAL	MOSQUITO ABATEMENT	760-259	35	6,425.00
06/28/2016	APCHK	88884**	0423085170 JUN 16	COMMONWEALTH EDISON	RED LIGHT - COM ED	630-248	30	44.75
			0791026027 JUN 16		RED LIGHT - COM ED	630-248	30	36.86
			6863089003 JUN 16		RED LIGHT - COM ED	630-248	30	29.92
			4215105154 JUN 16		ENERGY - STREET LIGHTS	745-207	35	500.93
			4403140110 JUN 16		ENERGY - STREET LIGHTS	745-207	35	47.30
			7432089030 JUN 16		ENERGY - STREET LIGHTS	745-207	35	396.44

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Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 01 GENERAL FUND								
CHECK APCHK 88884 TOTAL FOR								
06/28/2016	APCHK	88885	PRIBLE RENEWAL	DUPAGE COUNTY CLERK	FEES/DUES/SUBSCRIPTIONS	455-307	10	1,056.20
06/28/2016	APCHK	88886	9517 16/17DUES	DUPAGE MAYORS AND MGRS. CONF	FEES/DUES/SUBSCRIPTIONS	455-307	10	10.00
06/28/2016	APCHK	88891	169768	HEAT ENGINEERING CO	MAINTENANCE - GARAGE	725-413	35	8,754.22
CHECK APCHK 88892 TOTAL FOR								
06/28/2016	APCHK	88892#	9022942	HOME DEPOT CREDIT SERVICES	MAINTENANCE - BUILDING	466-228	10	139.00
			3023748		MAINTENANCE - BUILDING	466-228	10	50.81
			3033566		MAINTENANCE - BUILDING	466-228	10	43.40
			2023894		MAINTENANCE - BUILDING	466-228	10	104.16
			0043813		BUILDING MAINTENANCE SUPPLIES	466-351	10	39.92
			6021854		BUILDING MAINTENANCE SUPPLIES	466-351	10	79.98
			7021661		OPERATING SUPPLIES & EQUIPMENT	715-401	35	50.96
			3033566		OPERATING SUPPLIES & EQUIPMENT	715-401	35	14.83
			4022218		MAINTENANCE - VEHICLES	735-409	35	27.94
								37.91
								449.91
CHECK APCHK 88892 TOTAL FOR								
06/28/2016	APCHK	88893	47307	HR SIMPLIFIED	EMPLOYEE BENEFIT - MEDICAL INSURAN	455-141	10	510.00
06/28/2016	APCHK	88894	ADDTNL SHELTON	ILL. NOTARY DISCOUNT BONDING	FEES/DUES/SUBSCRIPTIONS	630-307	30	9.05
06/28/2016	APCHK	88895	STRUGALA TRNG	ILLINOIS HOMICIDE INVESTIGAT	SCHOOLS/CONFERENCES/TRAVEL	630-304	30	195.00
CHECK APCHK 88896 TOTAL FOR								
06/28/2016	APCHK	88896#	891379	J.P. COOKE CO.	OFFICE SUPPLIES	455-301	10	22.40
			891379		OFFICE SUPPLIES	810-301	40	47.85
								70.25
CHECK APCHK 88896 TOTAL FOR								
06/28/2016	APCHK	88898	60 MAY 16	KING CAR WASH	FUEL/MILEAGE/WASH	630-303	30	325.00
06/28/2016	APCHK	88899	9002475219	KONICA MINOLTA BUSINESS SOLU	COPY SERVICE	455-315	10	372.48
CHECK APCHK 88900 TOTAL FOR								
06/28/2016	APCHK	88900	0240873	L-3 COMMUNICATIONS	FEES/DUES/SUBSCRIPTIONS	630-307	30	1,124.00
			240873A		FEES/DUES/SUBSCRIPTIONS	630-307	30	1,470.00
								2,594.00
CHECK APCHK 88900 TOTAL FOR								
06/28/2016	APCHK	88901	MAY 2016	LAW OFFICES STORINO RAMELLO&	FEES - VILLAGE ATTORNEY	470-239	10	7,949.30
06/28/2016	APCHK	88902	YARD SALE	LYNN LEDEMAN	SPECIAL EVENTS	310-817	00	15.00
06/28/2016	APCHK	88903	28878	MARQUARDT PRINTING CO.	OFFICE SUPPLIES	810-301	40	64.00
06/28/2016	APCHK	88904	235194292016 JUN16	MOTOROLA SOLUTIONS INC	FEES/DUES/SUBSCRIPTIONS	630-307	30	68.00

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Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 01 GENERAL FUND								
06/28/2016	APCHK	88905	2016-12	NATURAL PATH URBAN FORESTRY	TREE MAINTENANCE	750-338	35	2,499.00
06/28/2016	APCHK	88906	N5967815	NEOPOST LEASING	POSTAGE & METER RENT	455-311	10	395.91
06/28/2016	APCHK	88908	208218/POLFLIET	NORTH EAST MULTI REGIONAL TR	SCHOOLS/CONFERENCES/TRAVEL	630-304	30	200.00
06/28/2016	APCHK	88909	1009501042	OCCUPATIONAL HEALTH CENTERS	WELLNESS	480-276	10	106.00
06/28/2016	APCHK	88910	70142	P.F. PETTIBONE & CO.	OPERATING EQUIPMENT	630-401	30	12.80
06/28/2016	APCHK	88911	TEK PAK 2	PCS INTERNATIONAL	IT - CONSULTING SERVICES	615-306	25	12,500.00
			137928		ERP CONSULTING SERVICES	615-307	25	300.00
				CHECK APCHK 88911 TOTAL FOR				12,800.00
06/28/2016	APCHK	88912#	6/22/16	PETTY CASH C/O TIM HALIK	SCHOOLS/CONFERENCES/TRAVEL	410-304	05	5.00
			6/22/16		SCHOOLS/CONFERENCES/TRAVEL	630-304	30	101.09
			6/22/16		OFFICE SUPPLIES	810-301	40	20.00
				CHECK APCHK 88912 TOTAL FOR				126.09
06/28/2016	APCHK	88913	88687	PUBLIC SAFETY DIRECT INC	MAINTENANCE - VEHICLES	630-409	30	1,295.00
			88631		MAINTENANCE - VEHICLES	630-409	30	104.99
			88688		NEW VEHICLES	680-625	30	8,930.16
			88689		NEW VEHICLES	680-625	30	545.00
				CHECK APCHK 88913 TOTAL FOR				10,875.15
06/28/2016	APCHK	88914*#	6613 2 OF 5	PURE PRAIRIE ORGANICS	LANDSCAPE - VILLAGE HALL	466-293	10	16.45
			6613 2 OF 5		LANDSCAPE MAINTENANCE SERVICES	565-342	20	2,150.41
			6613 2 OF 5		ROUTE 83 BEAUTIFICATION	755-281	35	1,463.06
				CHECK APCHK 88914 TOTAL FOR				3,629.92
06/28/2016	APCHK	88915#	15188	RAGS ELECTRIC, INC	MAINTENANCE SUPPLIES	570-331	20	102.50
			15186		MAINTENANCE - STREET LIGHTS	745-223	35	1,620.00
			15189		MAINTENANCE - STREET LIGHTS	745-223	35	245.25
			15190		MAINTENANCE - STREET LIGHTS	745-223	35	362.75
				CHECK APCHK 88915 TOTAL FOR				2,330.50
06/28/2016	APCHK	88916#	037815	RIEKE OFFICE INTERIORS	FURNITURE & OFFICE EQUIPMENT	625-611	25	350.00
			037815		FURNITURE & OFFICE EQUIPMENT	835-611	40	700.00

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Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 01 GENERAL FUND								
CHECK APCHK 88916 TOTAL FOR								
06/28/2016	APCHK	88917*#	1190	ROBERT WHITE CONSTRUCTION	STREET & ROW MAINTENANCE	750-328	35	1,785.36
			1189		STREET & ROW MAINTENANCE	750-328	35	1,831.32
			1188		STREET & ROW MAINTENANCE	750-328	35	5,600.00
								9,216.68
CHECK APCHK 88917 TOTAL FOR								
06/28/2016	APCHK	88918	7175803	SERVICE SANITATION INC	RENT - EQUIPMENT	570-234	20	97.00
06/28/2016	APCHK	88919	257924 HR 16/17	SIKICH LLP	FINANCIAL SERVICES	620-252	25	1,170.00
06/28/2016	APCHK	88920	8039541972	STAPLES	OFFICE SUPPLIES	455-301	10	78.39
CHECK APCHK 88921 TOTAL FOR								
06/28/2016	APCHK	88921*#	2016-141	SUNSET SEWER & WATER	STREET & ROW MAINTENANCE	750-328	35	1,365.28
			190337		STREET & ROW MAINTENANCE	750-328	35	1,628.83
			2016-153		STREET & ROW MAINTENANCE	750-328	35	732.00
								3,726.11
CHECK APCHK 88923 TOTAL FOR								
06/28/2016	APCHK	88923*#	109846	TAMELING INDUSTRIES	LANDSCAPE - VILLAGE HALL	466-293	10	265.00
			109672		MAINTENANCE SUPPLIES	570-331	20	201.00
			109846		MAINTENANCE SUPPLIES	570-331	20	523.10
			109672		STREET & ROW MAINTENANCE	750-328	35	54.00
			109846		STREET & ROW MAINTENANCE	750-328	35	793.20
								1,836.30
CHECK APCHK 88924 TOTAL FOR								
06/28/2016	APCHK	88924	834074198	THOMSON REUTERS - WEST	FEES/DUES/SUBSCRIPTIONS	630-307	30	294.25
			834192281		FEES/DUES/SUBSCRIPTIONS	630-307	30	822.38
			1004750712		FEES/DUES/SUBSCRIPTIONS	630-307	30	(154.25)
								962.38
CHECK APCHK 88925 TOTAL FOR								
06/28/2016	APCHK	88925	53028	TOM & JERRY'S SHELL SERVICES	MAINTENANCE - VEHICLES	630-409	30	59.16
			53022		MAINTENANCE - VEHICLES	630-409	30	99.86
			53009		MAINTENANCE - VEHICLES	630-409	30	25.45
			52941		MAINTENANCE - VEHICLES	630-409	30	25.45
			52940		MAINTENANCE - VEHICLES	630-409	30	107.05
			52933		MAINTENANCE - VEHICLES	630-409	30	48.86
			52944		MAINTENANCE - VEHICLES	630-409	30	25.45
			52968		MAINTENANCE - VEHICLES	630-409	30	601.99
			52985		MAINTENANCE - VEHICLES	630-409	30	45.85

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 CHECK DATE FROM 06/15/2016 - 06/28/2016

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 01 GENERAL FUND								
06/28/2016	APCEK	88926	86839	CHECK APCHK 88925	TOTAL FOR			1,039.12
				TRAFFIC CONTROL & PROTECTION	ROAD SIGNS	755-333	35	231.70
06/28/2016	APCEK	88927	0610976307 0610978747	UNIFIRST	MAINTENANCE - PW BUILDING MAINTENANCE - PW BUILDING	725-418 725-418	35 35	68.35 68.35
				CHECK APCHK 88927	TOTAL FOR			136.70
06/28/2016	APCEK	88928*	9766332739 9766332739 9766332739 9766332739 9766332739	VERIZON WIRELESS	PHONE - TELEPHONES PHONE - TELEPHONES PHONE - TELEPHONES TELEPHONES TELEPHONES	410-201 455-201 630-201 710-201 810-201	05 10 30 35 40	60.77 23.59 861.24 139.41 99.39
				CHECK APCHK 88928	TOTAL FOR			1,184.40
06/28/2016	APCHK	88929	3098884-0	WAREHOUSE DIRECT	OFFICE SUPPLIES	630-301	30	39.99
06/28/2016	APCHK	88930	68953 69069	WESTOWN AUTO SUPPLY COMPANY	MAINTENANCE - VEHICLES MAINTENANCE - EQUIPMENT	735-409 735-411	35 35	22.80 28.24
				CHECK APCHK 88930	TOTAL FOR			51.04
Fund: 02 WATER FUND								
06/22/2016	APCHK	18(E)	11374 MAY 16	DUPAGE WATER COMMISSION	PURCHASE OF WATER	420-575	50	140,533.31
				Total for fund 01 GENERAL FUND				145,080.00
06/28/2016	APCHK	88884*	4651111049 JUN 16	COMMONWEALTH EDISON	ENERGY - ELECTRIC PUMP	420-206	50	554.58
06/28/2016	APCEK	88887	06/22/2016	FOX, DEBRA	CUSTOMER OVERPAYMENT	280-135	00	96.35
06/28/2016	APCEK	88889	06/22/2016	GROUNDHOG UTILITY CONSTRUCTI	CUSTOMER OVERPAYMENT	280-135	00	689.78
06/28/2016	APCHK	88890	16-485	H-B-K WATER METER SERVICE	NEW METERING EQUIPMENT	435-461	50	29,747.75
06/28/2016	APCHK	88897	06/22/2016	KENNEDY, KATHLEEN	CUSTOMER OVERPAYMENT	280-135	00	109.09
06/28/2016	APCHK	88907	76627	NORLAB INC	CHEMICALS	420-361	50	272.00
06/28/2016	APCHK	88914*	6613 2 OF 5	PURE PRAIRIE ORGANICS	LANDSCAPING - OTHER	430-299	50	184.88
06/28/2016	APCHK	88921*	2016-152 2016-157	SUNSET SEWER & WATER	WATER DISTRIBUTION REPAIRS/MAINTEN WATER DISTRIBUTION REPAIRS/MAINTEN	430-277 430-277	50 50	2,504.75 2,226.63

CHECK DISBURSEMENT REPORT FOR WILLOWBROOK
 CHECK DATE FROM 06/15/2016 - 06/28/2016

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 02 WATER FUND								
06/28/2016	APCHK	88922	2016-150		WATER DISTRIBUTION REPAIRS/MAINTEN	430-277	50	3,664.10
			2016-151		WATER DISTRIBUTION REPAIRS/MAINTEN	430-277	50	3,664.36
				CHECK APCHK 88921 TOTAL FOR				12,059.84
06/28/2016	APCHK	88922	06/22/2016	T & T CONSTRUCTION CO.	CUSTOMER OVERPAYMENT	280-135	00	1,582.21
06/28/2016	APCHK	88923*#	109846	TAMELING INDUSTRIES	WATER DISTRIBUTION REPAIRS/MAINTEN	430-277	50	171.00
06/28/2016	APCHK	88928*#	9766332739	VERIZON WIRELESS	PHONE - TELEPHONES	401-201	50	139.41
					Total for fund 02 WATER FUND			190,686.89
Fund: 03 HOTEL/MOTEL TAX FUND								
06/28/2016	APCHK	88933	16 EXPO	WLBK BURR RIDGE CHAMBER OF C	SPECIAL PROMOTIONAL EVENTS	436-379	53	2,500.00
					Total for fund 03 HOTEL/MOTEL TAX FUND			2,500.00
06/28/2016	APCHK	88876	27493	ASSOCIATED TECHNICAL SERV. L	WATER TANK REPAIRS	440-604	65	742.00
06/28/2016	APCHK	88881*#	129601	CHRISTOPHER B. BURKE	WATER TANK REPAIRS	440-604	65	3,197.53
06/28/2016	APCHK	88888	161801	GENCO INDUSTRIES INC	WATER TANK REPAIRS	440-604	65	3,500.00
					Total for fund 09 WATER CAPITAL IMPROVEMENTS F			7,439.53
Fund: 14 LAND ACQUISITION, FACILITY, EXPANSION &								
06/28/2016	APCHK	88879*#	16-240	CAR REFLECTIONS	POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	845.00
			16-239		POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	1,280.00
				CHECK APCHK 88879 TOTAL FOR				2,125.00
06/28/2016	APCHK	88881*#	129612	CHRISTOPHER B. BURKE	POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	1,166.75
06/28/2016	APCHK	88917*#	1192	ROBERT WHITE CONSTRUCTION	POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	7,012.50
06/28/2016	APCHK	88931	6/13/16	WHEATON WINDOW TINTERS	POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	1,544.85
06/28/2016	APCHK	88932	17128	WILLIAMS ARCHITECTS	POLICE DEPT REMODEL (7760 QUINCY)	930-411	75	16,345.85
					Total for fund 14 LAND ACQUISITION, FACILITY,			28,194.95
				TOTAL - ALL FUNDS				369,354.68

'*'-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE FUND
 '#'-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE DEPARTMENT

VILLAGE OF WILLOWBROOK

BOARD MEETING AGENDA ITEM - HISTORY/COMMENTARY

ITEM TITLE:

AN ORDINANCE AMENDING TITLE 3, CHAPTER 12, SECTION 3-12-5 (B)
OF THE VILLAGE CODE – CLASSIFICATIONS: CLASS B LICENSE

AGENDA NO.

5d

AGENDA DATE: 6/27/16

STAFF REVIEW: Tim Halik, Village Administrator

SIGNATURE: Tim Halik

LEGAL REVIEW: Thomas Bastian, Village Attorney

SIGNATURE: Tom Bastian / eo

RECOMMENDED BY: Tim Halik, Village Administrator

SIGNATURE: Tim Halik

REVIEWED & APPROVED BY COMMITTEE:

YES ☐

NO ☐

N/A ☒

ITEM HISTORY (PREVIOUS VILLAGE BOARD REVIEWS, ACTIONS RELATED TO THIS ITEM, OTHER HISTORY)

The Village Code of Ordinances provides for the number of liquor licenses that are currently issued to qualified business establishments within the community. It is the policy of the Deputy Liquor Control Commissioner and the Village Board not to maintain any unassigned liquor licenses. The Village's Deputy Liquor Control Commissioner is the authority that may grant local licenses to persons or entities for premises within the Village. The Village Board has the authority to amend the Village Code, upon the recommendation of the Deputy Liquor Control Commissioner, to reflect an increase or decrease in the number of liquor licenses that exist within each class of license.

ITEM COMMENTARY (BACKGROUND, DISCUSSION, RECOMMENDATIONS, ETC.)

Historically, the Deputy Liquor Control Commissioner recommends to the Village Board an amendment to the Village Code be considered with regard to the number of liquor licenses within each class of license after an application is received, reviewed, and the required background report is favorable returned. At this time, the Village Board is requested to approve the attached Ordinance, which would amend the Village Code to reflect an additional liquor license in the Class B license category to be issued to the new Tomato Bar restaurant to be located at 6300 Kingery Highway (former Phillie's Pizza location), within the Hinsdale Lake Commons Shopping Center. The tenant finish permit for the new restaurant has been issued and construction is underway. The planned opening is to occur sometime in late July.

It is recommended that the Village Board approve the attached Ordinance amending the Village Code to increase the number of Class B liquor licenses from fourteen (14) to fifteen (15).

ACTION PROPOSED:

Pass the Ordinance

ORDINANCE NO. 16-O-_____

AN ORDINANCE AMENDING TITLE 3, CHAPTER 12, SECTION 3-12-5
(B) OF THE VILLAGE CODE – CLASSIFICATIONS, CLASS B LICENSE

BE IT ORDAINED by the Mayor and Board of Trustees of the Village of Willowbrook, DuPage County, Illinois, that the Village Code of the Village of Willowbrook be amended as follows:

SECTION ONE: That Title 3, Chapter 12, Section 3-12-5(B) of the Village Code of the Village of Willowbrook, entitled "Class B License", is hereby amended by deleting the last sentence in the section and in lieu thereof adding the following new sentence:

“There shall be no more than fifteen (15) class B licenses issued at any one time.”

SECTION TWO: That all ordinances and resolutions, or parts thereof, in conflict with the provisions with this Ordinance are, to the extent of such conflict, expressly repealed.

SECTION THREE: That this Ordinance shall be in full force and effect after its passage, approval and publication in pamphlet form as provided by law.

PASSED and APPROVED this 27th day of June, 2016.

APPROVED:

Mayor

ATTEST:

Village Clerk

ROLL CALL VOTE:

AYES: _____

NAYS: _____

ABSTENTIONS: _____

ABSENT: _____



EST. 1960

Willowbrook

835 Midway Drive
Willowbrook, IL 60527-5549

Phone: (630) 323-8215 Fax: (630) 323-0787 www.willowbrookil.org

6

Mayor

Frank A. Trilla

Village Clerk

Leroy R. Hansen

Village Trustees

Sue Berglund

Umberto Davi

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Chief of Police

Mark Shelton

**Director of
Finance**

Carrie Dittman



Proud Member of the
Illinois Route 66 Scenic Byway

June 01, 2016

BROWN, ANNIE L.
320 W 79TH ST
WILLOWBROOK, IL 60527

Re: Account 110050.000
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 152.15. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

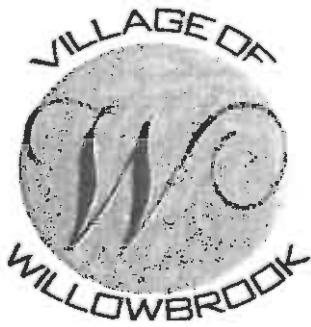
Should your water service be terminated, Section 6-8-8 of the Village Code provides that a \$70.00 non-refundable reinstatement fee be charged. Said \$70.00 reinstatement fee shall be paid in addition to all delinquent bills and all penalties thereon before water service will be reinstated.

If you have any questions concerning your water bill, or if you wish to arrange a hearing before the Mayor and Board of Trustees to contest the termination of your water service, please contact me at the Village of Willowbrook by writing to 835 Midway Drive, Willowbrook, IL 60527 or call 630-323-8215 not later than five (5) days prior to the scheduled termination date.

If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



EST. 1960

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June 01, 2016

COOPER, PATRICIA
222 MIDWAY DR
WILLOWBROOK, IL 60527

Re: Account 112125.004
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 189.36. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

Should your water service be terminated, Section 6-8-8 of the Village Code provides that a \$70.00 non-refundable reinstatement fee be charged. Said \$70.00 reinstatement fee shall be paid in addition to all delinquent bills and all penalties thereon before water service will be reinstated.

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Sincerely,

Timothy J. Halik
Director of Municipal Services



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**Director of
Finance**

Carrie Dittman

June 01, 2016

GWOZDZ, MICHAEL
7809 CLARENDON HILLS RD
WILLOWBROOK, IL 60527

Re: Account 111685.005
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 115.35. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

Should your water service be terminated, Section 6-8-8 of the Village Code provides that a \$70.00 non-refundable reinstatement fee be charged. Said \$70.00 reinstatement fee shall be paid in addition to all delinquent bills and all penalties thereon before water service will be reinstated.

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If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



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**Director of
Finance**

Carrie Dittman

June 01, 2016

KOLLER, NERINGA
7724 CHERRY TREE LN
WILLOWBROOK, IL 60527

Re: Account 110545.004
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 126.42. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

Should your water service be terminated, Section 6-8-8 of the Village Code provides that a \$70.00 non-refundable reinstatement fee be charged. Said \$70.00 reinstatement fee shall be paid in addition to all delinquent bills and all penalties thereon before water service will be reinstated.

If you have any questions concerning your water bill, or if you wish to arrange a hearing before the Mayor and Board of Trustees to contest the termination of your water service, please contact me at the Village of Willowbrook by writing to 835 Midway Drive, Willowbrook, IL 60527 or call 630-323-8215 not later than five (5) days prior to the scheduled termination date.

If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



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Finance**

Carrie Dittman

June 01, 2016

KOZLA, CINDY
326 SHERIDAN DR #2D
WILLOWBROOK, IL 60527

Re: Account 110825.000
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 162.33. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

Should your water service be terminated, Section 6-8-8 of the Village Code provides that a \$70.00 non-refundable reinstatement fee be charged. Said \$70.00 reinstatement fee shall be paid in addition to all delinquent bills and all penalties thereon before water service will be reinstated.

If you have any questions concerning your water bill, or if you wish to arrange a hearing before the Mayor and Board of Trustees to contest the termination of your water service, please contact me at the Village of Willowbrook by writing to 835 Midway Drive, Willowbrook, IL 60527 or call 630-323-8215 not later than five (5) days prior to the scheduled termination date.

If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



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June 01, 2016

LANE, CLYDE & GORDON, CHIQUITA
334 SHERIDAN DR # 2A
WILLOWBROOK, IL 60527

Re: Account 110875.014
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 179.57. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

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June 01, 2016

MAC DONNELL, ANTHONY
7607 VIRGINIA CT
WILLOWBROOK, IL 60527

Re: Account 111670.003
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 115.35. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



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Carrie Dittman

June 01, 2016

NASH, JAMES JOSEPH
835 TURNBERRY LN
WILLOWBROOK, IL 60527

Re: Account 152940.004
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 45.32. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



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**Director of
Finance**

Carrie Dittman

June 01, 2016

PATANO, JERRY
334 SHERIDAN DR # 1A
WILLOWBROOK, IL 60527

Re: Account 110870.003
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 115.35. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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Sincerely,

Timothy J. Halik
Director of Municipal Services



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Finance**

Carrie Dittman

June 01, 2016

POLANCO-WEBB, JOSE LEWIS
7710 BROOKBANK RD
WILLOWBROOK, IL 60527

Re: Account 111805.001
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 68.29. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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Sincerely,

Timothy J. Halik
Director of Municipal Services



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June 01, 2016

QUIRKE, DAVE
106 79TH ST
WILLOWBROOK, IL 60527

Re: Account 111950.005
Delinquent Water Bill

Dear Sir or Madam,

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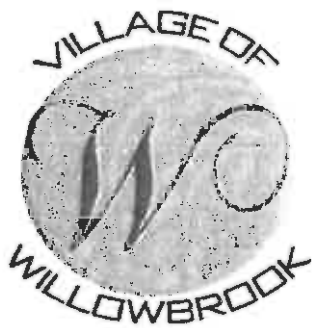
If you do not satisfy the bill or contact me, your water service will be automatically terminated.

Sincerely,

Timothy J. Halik
Director of Municipal Services



Proud Member of the
Illinois Route 66 Scenic Byway



EST. 1960

Willowbrook

835 Midway Drive
Willowbrook, IL 60527-5549

Phone: (630) 323-8215 Fax: (630) 323-0787 www.willowbrookil.org

Mayor

Frank A. Trilla

Village Clerk

Leroy R. Hansen

Village Trustees

Sue Berglund

Umberto Davi

Terrence Kelly

Michael Mistele

Gayle Neal

Paul Oggerino

**Village
Administrator**

Tim Halik

Chief of Police

Mark Shelton

**Director of
Finance**

Carrie Dittman

June 01, 2016

RACEALA, JOHN
6322 BRETON LAKES DR
WILLOWBROOK, IL 60527

Re: Account 152930.000
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 180.02. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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Carrie Dittman

June 01, 2016

STRAUCH, ANNALIESE
75 W 75TH ST
WILLOWBROOK, IL 60527

Re: Account 111230.008
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 115.35. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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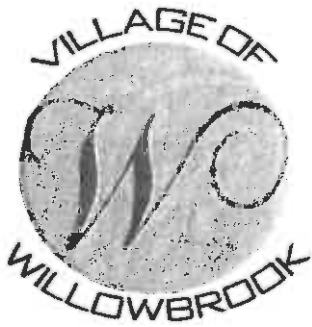
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June 01, 2016

TEMEN, KENNETH
413 W 79TH ST
WILLOWBROOK, IL 60527

Re: Account 110120.001
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 199.46. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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**Director of
Finance**

Carrie Dittman

June 01, 2016

VALDEZ, RODOLFO/SALGADO, LORENA
7527 ELEANOR PL
WILLOWBROOK, IL 60527

Re: Account 111235.002
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 296.45. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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June 01, 2016

WILSON, JEFFREY
236 W 79TH ST
WILLOWBROOK, IL 60527

Re: Account 110010.000
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 144.66. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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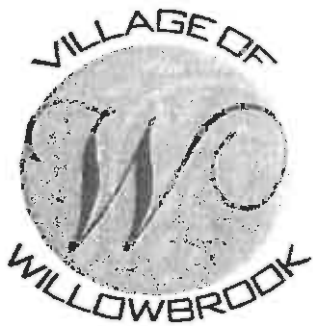
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June 01, 2016

WITT, SHIRLEY
7555 SHERIDAN DR 1F
WILLOWBROOK, IL 60527

Re: Account 112010.001
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June 01, 2016

WORLDWIDE TRANSMISSION GROUP
C/O: VALVE BODY CONNECTION
585 EXECUTIVE DR
WILLOWBROOK, IL 60527

Re: Account 410210.004
Delinquent Water Bill

Dear Sir or Madam,

Please be advised that your water bill is now delinquent in the amount of \$ 383.99. This amount now includes a \$25.00 fee pursuant to Section 6-8-5 of the Village of Willowbrook Code. This \$25.00 is added to all accounts delinquent 45 or more days after the billing date. This amount also includes all other penalties pursuant to Section 6-8-5 of the Village Code. Your failure to satisfy the total amount of this delinquency on or before June 27, 2016, will result in the immediate termination of your water service.

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VILLAGE OF WILLOWBROOK

BOARD MEETING AGENDA ITEM - HISTORY/COMMENTARY

ITEM TITLE:

AN ORDINANCE PROPOSING A BUSINESS DISTRICT PLAN AND THE DESIGNATION OF THE ROUTE 83/PLAINFIELD ROAD BUSINESS DISTRICT AND CALLING A PUBLIC HEARING IN CONNECTION THEREWITH

AGENDA NO.

7

AGENDA DATE: 6/27/16

STAFF REVIEW: T. Halik, Vill. Admin. / C. Dittman, Dir. Of Finance SIGNATURE: T. Halik / C. Dittman

LEGAL REVIEW: Thomas Bastian, Village Attorney SIGNATURE: Tom Bastian / eo

RECOMMENDED BY: Tim Halik, Village Administrator SIGNATURE: T. Halik

REVIEWED BY FINANCE & ADMINISTRATION COMMITTEE: YES ☒ on June 13, 2016 NO ☐ N/A ☐

ITEM HISTORY (PREVIOUS VILLAGE BOARD REVIEWS, ACTIONS RELATED TO THIS ITEM, OTHER HISTORY)

As members of the Board are aware, owners of commercial properties located near Kingery Highway and Plainfield Road have faced challenges finalizing their proposed re-development projects plans given the high cost of required off-site improvements, including necessary traffic improvements. The Village has received requests for the consideration of public subsidies in order to make these projects financially viable. The public finance consultant Ehlers Associates was hired to review the financial data, including project pro formas and gap analysis reports, to assist in determining whether a public subsidy is warranted, and if so, what amount. The final report concluded that a public subsidy is warranted. After continued discussions with the commercial property owners, it was agreed that the creation of a new Business District Sales Tax was the preferred method to raise funding to provide the subsidies. If approved as proposed, the sales tax rate within the boundaries of the new Business District would be 1% higher (i.e., 8% versus 7% elsewhere in town). This 1% sales tax increment would be collected from the state, forwarded to the Village, and deposited into a separate Village fund. Eligible project expenses could be reimbursed to the developers from this fund to offset extraordinary development costs. In accordance with state law, the maximum term of a Business District is 23 years.

One of the benefits of this approach is that the sales tax rate in Willowbrook is already comparatively low as compared to other surrounding jurisdictions (please see attached sales tax comparison). After discussions, Ehlers was then asked to draft a Business District Plan for consideration (see attached draft copy of Plan).

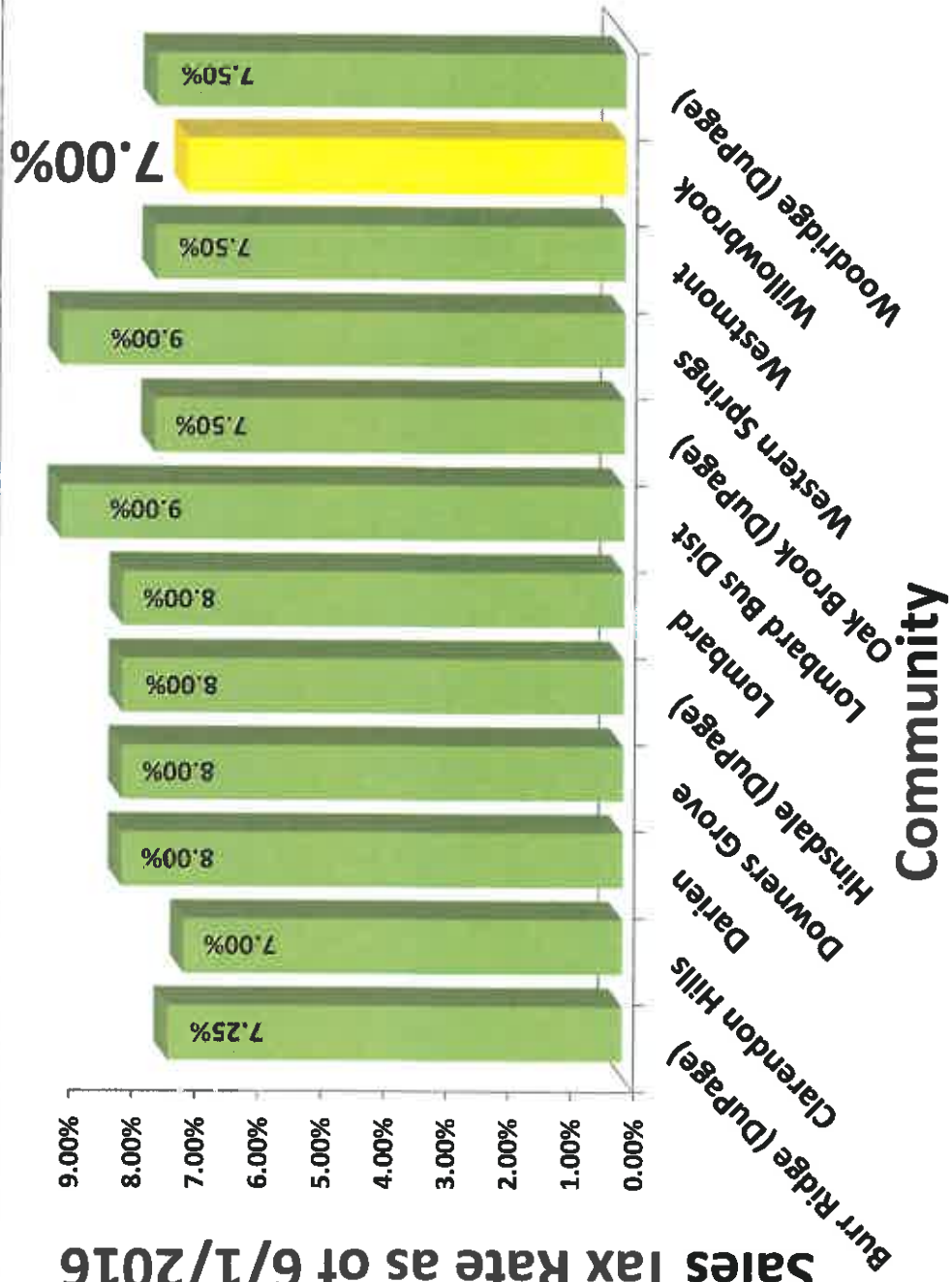
ITEM COMMENTARY (BACKGROUND, DISCUSSION, RECOMMENDATIONS, ETC.)

In accordance with the Illinois Business District Development and Redevelopment Law (65 ILCS 5/11-74.3-1 et seq.), attached is a proposed Business District Adoption Schedule as prepared by Ehlers Associates. Below are the general steps required to create this new Business District:

- June 27, 2016 – Adopt ord. proposing business district plan, setting time/place for a public hearing.
- July 1, 2016 – First public notice appears in Hinsdale Suburban Life.
- July 8, 2016 – Second public notice appears in Hinsdale Suburban Life.
- July 11, 2016 – Public hearing held before the Village Board to receive public comments.
- July 11, 2016 – Consideration of ord. to approve bus. district plan and designating the bus. district.
- October 1, 2016 – Deadline to file business district documents with the IDOR.

ACTION PROPOSED: Pass Ordinance.

Sales Tax Rate as of 6/1/2016



Village of Willowbrook, Illinois Route 83/Plainfield Road Business District Business District Plan

June 2016



Prepared by

EHLERS
LEADERS IN PUBLIC FINANCE

Village of Willowbrook, Illinois

Route 83/Plainfield Road Business District

Business District Plan

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I. Introduction

Municipalities are authorized to create Business Districts by the Illinois Municipal Code, Business District Development and Redevelopment Law, specifically in 65 ILCS 5/11-74.3 *et seq.*, as amended (the “Business District Act” or the “Act”). This document, entitled, *Village of Willowbrook, Illinois, Route 83/Plainfield Road Business District, Business District Plan, June, 2016* (the “Business District Plan”), is to serve as a Business District Plan for the area generally bounded by 69th Street on the north, 72nd Court on the south, Illinois Route 83 on the west, and Adams Street and Willow Way Lane on the east in Willowbrook, Illinois. The area includes all adjoining rights-of-way and a portion of PIN 09-23-400-035 for easement access but does not include PIN 09-23-405-019. The Village of Willowbrook (the “Village”) has determined that this area would benefit from designation as a Business District, as specifically provided for in the Business District Act. This area is subsequently referred to in this Business District Plan as the “Route 83/Plainfield Road Business District”, or the “Business District”.

Ehlers & Associates, Inc. (“Ehlers”) was retained to assist the Village in assessing the qualifications of the Route 83/Plainfield Road Business District for Business District designation under the Business District Act and in preparing this Business District Plan. In accordance with the Business District Act, this Business District Plan includes the following:

- A specific description of the Business District boundaries and a map illustrating the boundaries.
- A general description of each project proposed to be undertaken within the Business District, including a description of the approximate location of each project and a description of any developer, user, or tenant of any property to be located or improved within the proposed business district.
- The name of the proposed Business District.
- The estimated Business District Project Costs.
- The anticipated sources of funds to pay Business District Project Costs.
- The anticipated type and term of any obligations to be issued.
- The rate of any tax to be imposed pursuant to the Business District Act and the period of time for which the tax shall be imposed.

The Route 83/Plainfield Road Business District boundaries are generally described in **Sections III and IV**, depicted in **Exhibit A**, a map of the Business District with property identification numbers (“PINs”). It illustrates that all parcels in the Business District are contiguous. **Exhibit B** is the legal description of the Route 83/Plainfield Road Business District, specifically describing the Business District boundaries. All exhibits to this Business District Plan are incorporated herein by this reference thereto.

A. The Village of Willowbrook

The Village of Willowbrook is located in northeastern Illinois in DuPage County just north of the Historic Route 66. The Ridgemoor Homeowners Association led the effort to incorporate and in 1960 Willowbrook became one of the State's smallest villages.

Despite its small size, Willowbrook is well served by an abundance of hotels and retail centers, including the Willowbrook Town Center, which is located within the Business District. Willowbrook's quality of life is further enhanced by the Village's ten community parks, the nearby Waterfall Glen Forest Preserve, quality public schools, strong neighborhoods and sense of community.

According to 2010 United States Census data, Willowbrook then had a population of 8,540 persons, which was a 4.76% decrease in population since the 2000 census. Also as of 2010, there were 4,032 households residing in the Village, the average household size was 2.08 persons and the median income for a household was \$54,880. The most recent estimates by the U.S. Census Bureau indicate a population of 8,613 (2015), 3,999 households (2014), average household size of 2.14 (2014) and household median income of \$58,970 (2014).

There are five public school districts serving the Village: Gower School District No. 62, Maercker School District No. 60, Community Consolidated School District No. 181, and Darien School District No. 61 provide primary education, and Hinsdale School District No. 86 provides secondary education.

Willowbrook's central location along I-55 provides convenient access to major interstates, including I-290, I-294, I-355 and I-80, as well as easy access to Chicago's O'Hare International Airport and Midway Airport.

Village residents have many recreational opportunities. The Village of Willowbrook owns and maintains 10 parks and playgrounds covering 54 acres. Willowbrook is one of seven communities that comprise the Gateway Special Recreation Association, which provides services to persons with disabilities.

The Village of Willowbrook's governing body is composed of the Mayor, six trustees, and the Village Clerk, all of whom are elected by Village residents. Trustees are also assigned to supporting committees that provide recommendations to the Village Board on issues relating to public safety, municipal services, finance and administration. The Village has five commissions and boards that are appointed by the Mayor. Various departments oversee the day-to-day work of the Village. These departments are headed by an administrative staff who operate under the direction of the Village Administrator.



Village of Willowbrook

B. Route 83/Plainfield Road Business District

The Business District is located in the center of Willowbrook at the intersections of the two heavily traveled roads, Illinois Route 83 (also known as Illinois 83 and as Kingery Highway), a Strategic Regional Arterial (SRA) route as defined by the Illinois Department of Transportation and Plainfield Road, a minor arterial road. The Business District consists of six PINs and a portion of PIN 09-23-400-035 for easement access, and currently has 30 tenant businesses:

- PIN 09-23-400-036 is located at the northern-most part of the Business District. It is irregular in size and shape and not conducive to contemporary development. It includes parts of a pond, a sidewalk and a street.
- PIN 09-23-405-018 is located north of Plainfield Road and extends north to 69th Street. It includes an approximately 117,150 square foot retail building constructed in 1971. The building has been vacant since the previous occupant, Kmart, closed in May 2013.
- PIN 09-23-406-003 is located south of Plainfield Road between Adams Street and the Willowbrook Town Center Access Drive. It is occupied by Willowbrook Lanes, and is the oldest of the buildings in the Business District, constructed in 1958.
- PIN 09-23-406-015 is located south of Plainfield Road immediately west of Adams Street. It is occupied by the TFC Bank building, constructed in 1974.
- PIN 09-23-406-018 is located south of Plainfield Road and west of the Willowbrook Town Center Access Drive. It is occupied by the PNC Bank building, constructed in 2007.
- PIN 09-26-200-010 is located south of Plainfield Road and extends south to the north side of 72nd Court between Willowbrook Town Center Access Drive and

Kingery Highway. It is located primarily south and west of block 406 and includes the Willowbrook Town Center. Willowbrook Town Center was developed in 2007 on a previously vacant track of land. It currently includes eight buildings with 25 tenant businesses.

There is one parcel, 09-23-405-019, currently occupied by a gasoline filling station, that is inside of the physical boundaries of the area, but excluded as part of the Business District. A portion of PIN 09-23-400-035, on the northern boundary, has been included for easement access.

The development of the Willowbrook Town Center in 2007 increased the amount of traffic to the area. A recent traffic study identified that the Business District's intersections primarily operate at a Level E, which represents saturated or at-capacity conditions and long delays during peak hours.

The Business District is primarily served by two signaled intersections along Route 83 at 69th Street and 72nd Court, and four stop sign controlled intersections, Route 83 at 69th Street and 72nd Court, Plainfield Road at Adams Street and at the Willowbrook Town Center Access Drive. Four of the five intersections were evaluated as part of the Traffic Impact Study prepared by Kenig, Lindren, O'Hara, Aboona, Inc. (see **Exhibit H**).



Aerial View of Business District

II. Business District Act

The Business District Act is intended to be used by municipalities to invigorate economically sluggish areas by addressing problems that cause the area to qualify as a Business District and a “blighted area” (“Blighted Area”) under the Business District Act. Municipalities are authorized to carry out development and redevelopment projects to achieve their goals for the Business District.

A. Statutory Basis for a Business District

The Business District Act finds and declares:

1. It is essential to the economic and social welfare of each municipality that business districts be developed, redeveloped, improved, maintained, and revitalized, that jobs and opportunity for employment be created within the municipality, and that, if blighting conditions are present, blighting conditions be eradicated by assuring opportunities for development or redevelopment, encouraging private investment, and attracting sound and stable business and commercial growth. It is further found and determined that as a result of economic conditions unfavorable to the creation, development, improvement, maintenance, and redevelopment of certain business and commercial areas within municipalities opportunities for private investment and sound and stable commercial growth have been and will continue to be negatively impacted and business and commercial areas within many municipalities have deteriorated and will continue to deteriorate, thereby causing a serious menace to the health, safety, morals, and general welfare of the people of the entire state, unemployment, a decline in tax revenues, excessive and disproportionate expenditure of public funds, inadequate public and private investment, the unmarketability of property, and the growth of delinquencies and crime. In order to reduce threats to and to promote and protect the health, safety, morals, and welfare of the public and to provide incentives which will create employment and job opportunities, will retain commercial businesses in the state and related job opportunities and will eradicate blighting conditions if blighting conditions are present, and for the relief of unemployment and the maintenance of existing levels of employment, it is essential that plans for business districts be created and implemented and that business districts be created, developed, improved, maintained, and redeveloped.
2. The creation, development, improvement, maintenance, and redevelopment of business districts will stimulate economic activity in the state, create and maintain jobs, increase tax revenues, encourage the creation of new and lasting infrastructure, other improvements, and facilities, and cause the attraction and retention of businesses and commercial enterprises which generate economic activity and services and increase the general tax base, including, but not limited to, increased retail sales, hotel or restaurant sales, manufacturing sales, or

entertainment industry sales, thereby increasing employment and economic growth.

3. It is hereby declared to be the policy of the state, in the interest of promoting the health, safety, morals, and general welfare of all the people of the state, to provide incentives which will create new job opportunities and retain existing commercial businesses within the state and related job opportunities, and it is further determined and declared that the relief of conditions of unemployment, the maintenance of existing levels of employment, the creation of new job opportunities, the retention of existing commercial businesses, the increase of industry and commerce within the state, the reduction of the evils attendant upon unemployment, and the increase and maintenance of the tax base of the state and its political subdivisions are public purposes and for the public safety, benefit, and welfare of the residents of this state.
4. The exercise of the powers provided in this Law is dedicated to the promotion of the public interest, to the enhancement of the tax base within business districts, municipalities, and the state and its political subdivisions, the creation of employment, and the eradication of blight, if present within the business district, and the use of such powers for the creation, development, improvement, maintenance, and redevelopment of business districts of a municipality is hereby declared to be for the public safety, benefit, and welfare of the residents of the state and essential to the public interest and declared to be for public purposes.

B. Municipal Powers Under the Business District Act

Municipal powers under the Business District Act include the following:

1. To make and enter into all contracts necessary or incidental to the implementation and furtherance of a business district plan. A contract by and between the municipality and any developer or other nongovernmental person to pay or reimburse said developer or other nongovernmental person for business district project costs incurred or to be incurred by said developer or other nongovernmental person shall not be deemed an economic incentive agreement under Section 8-11-20, notwithstanding the fact that such contract provides for the sharing, rebate, or payment of retailers' occupation taxes or service occupation taxes (including, without limitation, taxes imposed pursuant to subsection (10)) the municipality receives from the development or redevelopment of properties in the business district. Contracts entered into pursuant to this subsection shall be binding upon successor corporate authorities of the municipality and any party to such contract may seek to enforce and compel performance of the contract by civil action, mandamus, injunction, or other proceeding.
2. Within a business district, to acquire by purchase, donation, or lease, and to own, convey, lease, mortgage, or dispose of land and other real or personal property or rights or interests therein; and to grant or acquire licenses, easements, and options

with respect thereto, all in the manner and at such price authorized by law. No conveyance, lease, mortgage, disposition of land or other property acquired by the municipality or agreement relating to the development of property, shall be made or executed except pursuant to prior official action of the municipality. No conveyance, lease, mortgage, or other disposition of land owned by the municipality, and no agreement relating to the development of property, within a business district shall be made without making public disclosure of the terms and disposition of all bids and proposals submitted to the municipality in connection therewith.

3. To acquire property by eminent domain in accordance with the Eminent Domain Act.
4. To clear any area within a business district by demolition or removal of any existing buildings, structures, fixtures, utilities, or improvements, and to clear and grade land.
5. To install, repair, construct, reconstruct, or relocate public streets, public utilities, and other public site improvements within or without a business district which are essential to the preparation of a business district for use in accordance with a business district plan.
6. To renovate, rehabilitate, reconstruct, relocate, repair, or remodel any existing buildings, structures, works, utilities, or fixtures within any business district.
7. To construct public improvements, including but not limited to buildings, structures, works, utilities, or fixtures within any business district.
8. To fix, charge, and collect fees, rents, and charges for the use of any building, facility, or property or any portion thereof owned or leased by the municipality within a business district.
9. To pay or cause to be paid business district project costs. Any payments to be made by the municipality to developers or other nongovernmental persons for business district project costs incurred by such developer or other nongovernmental person shall be made only pursuant to the prior official action of the municipality evidencing intent to pay or cause to be paid such business district project costs. A municipality is not required to obtain any right, title, or interest in any real or personal property in order to pay business district project costs associated with such property. The municipality shall adopt such accounting procedures as shall be necessary to determine that such business district project costs are properly paid.
10. To apply for and accept grants, guarantees, donations of property or labor or any other thing of value for use in connection with a business district project.

11. If the municipality has by ordinance found and determined that the business district is a "blighted area" under this Law, to impose a retailers' occupation tax and a service occupation tax in the business district for the planning, execution, and implementation of business district plans and to pay for business district project costs as set forth in the business district plan approved by the municipality.
12. If the municipality has by ordinance found and determined that the business district is a "blighted area" under this Law, to impose a hotel operators' occupation tax in the business district for the planning, execution, and implementation of business district plans and to pay for the business district project costs as set forth in the business district plan approved by the municipality.

The Business District Act specifies that a municipality may impose a retailers' occupation and a service occupation tax (collectively the "Business District Sales Tax" or "Business District Sales Taxes") and a hotel operators' occupation tax (the "Business District Hotel/Motel Tax" or "Business District Hotel/Motel Taxes") applying revenues toward development and redevelopment within the Business District.

The Business District Sales Taxes may be imposed at a rate not to exceed one percent (1.0%) of the gross receipts from sales of tangible personal property within the Business District, and must be imposed in quarter percent (0.25%) increments. The Business District Sales Taxes may not be imposed on "tangible personal property titled or registered with an agency of this state's government or food for human consumption that is to be consumed off the premises where it is sold (other than alcoholic beverages, soft drinks, and food that has been prepared for immediate consumption), prescription and nonprescription medicines, drugs, medical appliances, modifications to a motor vehicle for the purposes of rendering it usable by a disabled person, and insulin, urine testing materials, syringes, and needles used by diabetics, for human use," and may not be imposed for more than twenty-three (23) years. These Business District Sales Taxes, if imposed, shall be collected by the Illinois Department of Revenue and then disbursed to the Village.

The Business District Hotel/Motel Tax may be imposed at a rate of not to exceed one percent (1.0%) of the gross rental receipts from the rental leasing or letting of hotel rooms within the Business District (excluding, however, gross rental receipts from the rental leasing or letting of a hotel to permanent residents, as defined in the Hotel Operators' Occupation Tax Act), must be imposed in quarter percent (0.25%) increments, may not be imposed for more than twenty-three (23) years and, if imposed, must be collected by the Village.

III. Business District Eligibility Analysis

A. Qualifications for a Business District

Pursuant to 65 ILCS 5/11-74.3-5, a business district is defined as “a contiguous area which includes only parcels of real property directly and substantially benefited by the proposed business district plan.” The Business District Act further states that a business district may, but need not be, a blighted area, but no municipality shall be authorized to impose Business District Sales Taxes or Business District Hotel/Motel Taxes unless it is determined by ordinance to be a blighted area under the Business District Act.

A Blighted Area is defined by the Business District Act as “an area that is a blighted area which, by reason of the predominance of defective, non-existent, or inadequate street layout, unsanitary or unsafe conditions, deterioration of site improvements, improper subdivision or obsolete platting, or the existence of conditions which endanger life or property by fire or other causes, or any combination of those factors, retards the provision of housing accommodations or constitutes an economic or social liability, an economic underutilization of the area, or a menace to the public health, safety, morals, or welfare.”

B. Business District Boundaries

The Business District consists of six parcels and four blocks (including partial blocks). The entire area encompasses approximately 55 acres, including right-of-way within the Business District boundaries and a portion of PIN 09-23-400-035 on the northern boundary for easement access. Approximately 33% of the 55 acres is dedicated to right-of-ways. There is one parcel, 09-23-405-019, currently occupied by a gasoline filling station, that is inside of the physical boundaries of the area, but excluded as part of the Business District.

The Business District is generally bounded by 69th Street on the north, 72nd Court on the south, Illinois Route 83 on the west, and Adams Street and Willow Way Lane on the east, and includes the adjoining rights-of-way. The boundaries of the Route 83/Plainfield Road Business District have been drawn to include only real property directly and substantially benefited by the proposed project to be undertaken as part of the Business District Plan.

Exhibit A is the map of the Route 83/Plainfield Road Business District with PINs. It illustrates that all parcels in the Business District are contiguous. **Exhibit B** is the legal description of the Route 83/Plainfield Road Business District, specifically describing the Business District boundaries.

Parcels (with PINs) within the Business District are listed in **Exhibit C**. Street addresses for parcels within the Business District are listed in **Exhibit D**.

C. Eligibility Analysis Methodology

In determining whether or not the proposed Business District meets the eligibility requirements of the Business District Act, at the Village's direction, Ehlers conducted research and field surveys.

Every parcel was visually examined during the survey. The survey and analysis of existing conditions within the Business District area was completed in April 2016 to document the extent to which each "blighted area" factor is present within the Business District. Various types of research and field surveys were undertaken including:

1. Exterior survey of the condition and use of properties and buildings.
2. Field survey of environmental conditions covering street, sidewalks, lighting, traffic, parking facilities, landscaping, fences and walls, and general property maintenance.
3. Analysis of tax maps to ascertain platting.
4. Review of previously prepared plats, plans, and studies.
5. Review of County and Township Records.
6. Contacts with Village officials and private parties knowledgeable of area conditions, history, age of buildings and site improvements, real estate matters and related items, as well as examination of existing information related to the Business District.

D. Business District Eligibility Findings

The Business District is a "blighted area" as defined in the Business District Act due to the following factors:

- Defective, non-existent, or inadequate street layout
- Unsanitary or unsafe conditions
- Deterioration of site improvements
- Improper subdivision or obsolete platting
- Economic underutilization of the area

All of these factors combined constitute an economic liability and an economic underutilization of the area within the Route 83/Plainfield Road Business District in its present condition and use. Based on the presence of these factors, which is described in more detail below, the Route 83/Plainfield Road Business District is a "blighted area" as defined by the Business District Act.

Defective, non-existent, or inadequate street layout

Finding: The entire Business District suffers from a predominance of defective, non-existent, and inadequate street layout as evidenced by the current traffic conditions, the

need for additional signalization and the number of traffic accidents in the Business District.

The Business District is primarily served by two signaled intersections along Route 83 at 69th Street and 72nd Court, and four stop sign controlled intersections, Route 83 at 69th Street and 72nd Court, Plainfield Road at Adams Street and at the Willowbrook Town Center Access Drive. Four of the five intersections were evaluated as part of the *Traffic Impact Study Redevelopment of Kmart Store Parcel, Willowbrook, Illinois* prepared by Kenig, Lindren, O'Hara, Aboona, Inc. in April 2015. This study is attached as **Exhibit H**.

The Traffic Impact Study identified that three of the four Business District intersections are operating at-capacity and with long delays during peak hours. According to the Highway Capacity Manual grading scale, conditions at the three intersections (IL Route 83/Plainfield Road; IL Route 83/69th Street; and the Plainfield Road/Willowbrook Town Center Access Drive) range from Level E, which represents saturated or at-capacity conditions, to Level F, which represents oversaturated conditions and extensive delays. The Business District's newest signalized intersection at IL Route 83 and 72nd Court received a Level A grade, which is the best traffic flow and least amount of delays, to a grade of Level C, a mid-range grade.

In addition, a traffic signal warrant study was conducted to determine if a traffic signal is warranted at the intersection where Plainfield Road intersects the Willowbrook Town Center Access Drive on the south side and the vacant property on the north side. Per the guidelines established by the Illinois Department of Transportation, a traffic signal is warranted based on the existing traffic volumes and will be necessary with increased traffic from future development.

Traffic crash data provided by the Village of Willowbrook identifies an increase of 38% in the number of accidents over the past three years from 121 in 2013 to 168 in 2015. This is a large increase in accidents over a three-year period. According to the State of Illinois, approximately 59.6% of the accidents in 2014 occurred in the Business District, which only has four intersections in a relatively small area.

Defective, non-existent, or inadequate street layout is present in all of the parcels (100%). **Exhibit E** identifies parcels with this condition.

Unsanitary or unsafe conditions

Finding: The evidence cited for the previous factor also leads to unsafe conditions within the Business District. Current traffic conditions, the need for additional signalization and the number of traffic accidents in the Business District (see detailed analysis above) will require improvements to the public intersections and to the private properties within the Business District.

Unsafe conditions are present in all of the parcels (100%). **Exhibit E** identifies parcels with this condition.

Deterioration of site improvements

Finding: Field surveys were conducted in April 2016 to identify the physical condition of buildings, parking lots, service and loading areas, curbing, and sidewalks. The newer buildings on PIN 09-26-200-010 (Willowbrook Town Center) are generally in good condition and show minimal signs of deterioration.

PIN 09-23-405-018 (the former Kmart building) shows significant signs of deterioration throughout the parcel. The age of the building and the lack of an occupant have contributed to the building's deteriorated state. The building has damaged doors, holes and cracks in the facade, loose/missing materials around the entire building, broken windows, damaged awnings, rusting and inadequate sidewalks. The parking lot also has uneven surfaces, deteriorated light poles, cracks and holes in the pavement.

PIN 09-23-406-003 (Willowbrook Lanes) shows evidence of deterioration, which includes loose and missing shingles, peeling paint and rusting, and deteriorated sidewalks. Awnings, gutter/downspouts and tuck-pointing are also in a state of disrepair.

PIN 09-23-406-015 (TCF Bank) shows evidence of deterioration, which includes deteriorated surface parking lots and loose and missing materials.

Deterioration of site improvements is present in three of the six parcels (50%). **Exhibit E** identifies parcels with this condition.

Improper subdivision or obsolete platting

Finding: Evidence of obsolete platting exists within the Business District. Parcel 09-23-400-036 is irregular in size and shape and is not conducive to contemporary development. It includes parts of a pond, a sidewalk and a street. Parcel 09-23-406-018 (occupied by PNC Bank) is surrounded by parcel 09-26-200-010 (Willowbrook Town Center) on three sides with no access to Plainfield Road. Therefore, this factor is found to be present to a limited extent.

Obsolete platting is present in two of the six parcels (33%). **Exhibit E** identifies parcels with this condition.

Economic underutilization of the area

Finding: All of the factors noted above together constitute an economic liability to the Business District in its present condition and use. In addition, the Equalized Assessed Value ("EAV") of a property, as well as the level of vacancies in commercial spaces, are key indicators of the economic viability of an area.

Although not specifically outlined in the Business District Act, the TIF Act outlines three standards to measure EAV:

- If the EAV in an area has decreased for three of the last five calendar years prior to the year in which the area is designated.
- If the EAV in an area is increasing at an annual rate that is less than the balance of the municipality for three of the last five calendar years for which information is available.
- If the EAV in an area is increasing at an annual rate that is less than the Consumer Price Index for All Urban Consumers published by the United States Department of Labor or successor agency (CPI) for three of the last five calendar years prior to the year in which the area is designated.

If one or more of these tests are positive, it is reasonable to infer that there is a lack of private investment in the Business District as a whole, and therefore the area is economically underutilized.

The EAV of the Business District meets two of the three measurement standards, as shown in **Table 1** below. The total EAV of the Business District has decreased for three of the last five calendar years. Also, the EAV of the Business District has increased at an annual rate that is less than the CPI for four of the past five years. This data indicates that the Business District is economically underutilized.

Table 1: Growth Rates of Equalized Assessed Valuation

	TAX YEAR					
	2010	2011	2012	2013	2014	2015
Total EAV of BD	13,130,310	13,350,440	12,428,000	11,892,380	12,198,740	12,186,610
Percent Change		1.68%	-6.91%	-4.31%	2.58%	-0.10%
Village Wide EAV	469,822,326	434,766,214	394,380,423	375,109,630	380,404,305	393,038,691
Balance of Village Wide EAV	456,692,016	421,415,774	381,952,423	363,217,270	368,205,565	380,852,081
Percent Change		-7.72%	-9.36%	-4.91%	1.37%	3.43%
CPI		3.20%	2.10%	1.50%	1.60%	0.10%

Data sources: DuPage County Clerk

Further, although the building on PIN 09-23-405-018 is located at a heavily traveled intersection, a desirable location for retail development, the property has remained vacant for the past three years. The site was formerly occupied by Kmart and the structure will require demolition before it can be redeveloped. The demolition and land preparation expenses, in addition to the cost of mitigating traffic issues that must be addressed on the property, will require assistance by the Village. This is evidenced by: 1) the fact that in the past three years the Village has not been able to locate a developer that can or will profitably redevelop this prominent site; and, 2) gap analysis performed by the Village's consultant indicates that some contribution by the Village would be justified to pay for a portion of these extraordinary expenses of redevelopment, as the Business District Act intends.

The findings of the eligibility factors all indicate that the area is not functioning as well as it should and demonstrates an economic underutilization of the area.

Economic underutilization of the area is present throughout the Business District as a whole (100%). As such, **Exhibit E** identifies all parcels with this condition.

E. Summary Business District Eligibility Findings

In summary, this Business District Plan concludes that the Business District in its present condition and use is eligible for Business District designation under the Business District Act as a “blighted area”, according to the definitions in the Business District Act.

The Business District is a “blighted area” as defined in the Business District Act due to the existence of the following factors:

- Defective, non-existent, or inadequate street layout
- Unsanitary or unsafe conditions
- Deterioration of site improvements
- Improper subdivision or obsolete platting
- Economic underutilization of the area

The Business District Act states that it is essential to the economic and social welfare of each municipality that business districts be developed, redeveloped, improved, maintained, and revitalized, and that if blighting conditions are present, blighting conditions be eradicated by assuring opportunities for development or redevelopment, encouraging private investment, and attracting sound and stable business and commercial growth.

The costs associated with the development and redevelopment of the properties in the Business District (including demolition of existing structures, land preparation, utilities, infrastructure, and traffic safety improvements) constitute an impediment to private investment. Due to the extensive initial investment for development incentive payments, rehabilitation, and public infrastructure that is required in order to allow development and redevelopment to occur, development and redevelopment of the area is not likely to occur solely as a result of private investment alone.

The Route 83/Plainfield Road Business District, on the whole, has not been subject to growth or development by private enterprises and would not reasonably be anticipated to be developed or redeveloped without the establishment of the Business District and the adoption of this Business District Plan.

IV. Business District Development Plan

A. Objectives and Policies

General objectives for the Route 83/Plainfield Road Business District include:

- Enhance the environment within the Business District to contribute more positively to the health, safety and general welfare of the Village and surrounding communities.
- Strengthen the economic well-being of the Business District and the Village by increasing business activity and improving the tax base of the Village and other local governments having overlapping jurisdiction in the Business District.
- Maintain, improve, and construct public and private infrastructure and roadway improvements to encourage and support private investment.
- Improve public and traffic safety conditions for motorists, pedestrians and bicyclists.
- Stimulate private investment in new construction and redevelopment so as to maintain a strong regional retail presence.
- Create new job opportunities and retain existing jobs for residents and non-residents of the Village.
- Improve the visual attractiveness of the Business District and the Village through attractive and high-quality design, site improvements, landscaping, and public areas.
- Reduce or eliminate the factors that qualified the Business District as a “blighted area”.

The Village proposes to undertake this Business District Plan, which consists of planned economic development and redevelopment activities, sound fiscal policies, marketable land uses, and other private and public activities. Appropriate policies have been or will be developed as required, assuring the completion of this Business District and the activities specified. The Village may employ the use of financial incentives for private investment within the Business District.

The Village also maintains the flexibility to undertake additional activities, improvements and projects authorized under the Business District Act and other applicable laws, as needs change over time, especially as market demands change and development and redevelopment occurs in the Route 83/Plainfield Road Business District.

B. Business District Boundaries and Map

The Business District consists of six parcels and four blocks (including partial blocks). The entire area encompasses approximately 55 acres, including right-of-ways within the Business District boundaries.

The Business District is generally bounded by 69th Street on the north, 72nd Court on the south, and Illinois 83 on the west and Adams Street and Willow Way Lane on the east Willowbrook, Illinois. The boundaries include the adjoining rights-of-way and a portion of PIN 09-23-400-035 on the northern boundary for easement access but does not include PIN 09-23-405-019. Parcels that are not annexed in the Village of Willowbrook are excluded from the Business District.

The boundaries of the Route 83/Plainfield Road Business District have been drawn to include only real property directly and substantially benefited by the Business District Plan. **Exhibit A** is the map of the Route 83/Plainfield Road Business District with PINs. It illustrates that all parcels in the Business District are contiguous. **Exhibit B** is the legal description of the Route 83/Plainfield Road Business District, specifically describing the Business District boundaries.

Parcels by PIN within the Business District are listed in **Exhibit C**. Addresses of parcels within the Business District are listed in **Exhibit D**.

C. Project Description

The Village proposes to achieve its objectives for the Route 83/Plainfield Road Business District through the use of public financing techniques authorized under the Business District Act to undertake the activities, improvements, and projects described below. The Village also maintains the flexibility to undertake additional activities, improvements, and projects authorized under the Business District Act and other applicable laws, as the needs for activities, improvements, and projects change as development and redevelopment occurs in the Business District, including:

1. Construct buildings and facilities.
2. Revitalize and upgrade buildings through site planning, façade improvements, and construction methods that include cohesive design features, provide focus to the streetscape and buildings in the Business District, and use quality building materials. (This includes the installation of automatic fire suppression systems in existing buildings where they would be required if they were to be constructed under current fire codes.)
3. Assemble land into parcels of sufficient shape and size for disposition, development, and redevelopment in accordance with this Business District Plan and contemporary development needs and standards.
4. Market sites within the Business District to private investors.

5. Improve streetscape design, pedestrian access, distinctive lighting, signage and landscaping, and other appropriate site amenities.
6. Redesign sites to improve layout and access, which may require the demolition and replacement of buildings and other facilities.
7. Provide and upgrade infrastructure to serve developments, including the construction of and improvements to utility and stormwater management infrastructure.
8. Create and improve on existing roadways and circulation patterns to improve traffic flow and safety.
9. Make access improvements to provide safe, convenient, efficient, and effective access to and circulation within and around the Business District for automobiles, trucks and delivery vehicles, public transportation, bicycles, and pedestrians, as appropriate.
10. Provide financial assistance, as permitted by the Act, to encourage private investment and private activities as outlined in this Business District Plan.

Specific sites targeted for redevelopment as of the issuance of this report include:

1. PIN 09-23-405-018, the site of a former Kmart retail store, which has been vacant for the past three years. The structure will require demolition before it can be redeveloped. A developer has approached the Village with plans to redevelop the site as a grocery store anchor with various commercial/restaurant spaces.
2. PINs 09-23-406-003 and 09-23-406-015, currently occupied by a bowling alley and a bank branch, respectively. A separate developer has approached the Village with plans to demolish existing structures and to redevelop the site with a larger restaurant anchor, a new bank building, and various ancillary commercial/restaurant spaces.

The projects, improvements, and activities presented in this Business District Plan generally conform to the land-use development policies and standards for the Village as set forth in the existing Comprehensive Plan.

D. Business District Name

The name of the Business District shall be the “Route 83/Plainfield Road Business District.”

E. Business District Project Costs

A range of development and redevelopment projects, activities and improvements will be required to implement this Business District Plan. In undertaking these activities and improvements, the Village may incur and expend funds related to the projects described in this Business District Plan and in compliance with the Business District Act. The activities and improvements and their estimated costs are set forth in **Table 2**.

Estimated Business District Project Costs described in **Table 2** are intended to provide an upper estimate of expenditures and represent present value. Within the Development Project Costs, adjustments increasing or decreasing line items may be made without amending this Business District Plan. The costs represent estimated amounts and do not represent actual Village commitments or expenditures.

Estimated Business District Project Costs exclude any additional financing costs, including any interest expense, reasonably required reserves, issuance costs, capitalized interest and costs associated with optional redemptions. These financing costs may be substantial, are subject to prevailing market conditions, and are in addition to Estimated Business District Project Costs.

Table 2: Estimated Business District Project Costs

<u>Item Description</u>	<u>Estimated Costs</u>
1. Costs of studies, surveys, development of plans and specifications, implementation and administration of the Business District Plan, and personnel and professional service costs including architectural, engineering, legal, marketing, financial, planning, or other professional services, provided that no charges for professional services may be based on a percentage of tax revenues received by the municipality.	\$675,000
2. Property assembly costs, including but not limited to, acquisition of land and other real or personal property or rights or interests therein, and specifically including payments to developers or other nongovernmental persons as reimbursement for property assembly costs incurred by that developer or other nongovernmental person.	\$5,000,000
3. Site preparation costs, including but not limited to clearance, demolition or removal of any existing buildings, structures, fixtures, utilities, and improvements and clearing and grading of land.	\$5,000,000
4. Costs of installation, repair, construction, reconstruction, extension, or relocation of public streets, public utilities, and other public site improvements within or without the business district which are essential to the preparation of the Business District for use in accordance with the Business District Plan, and specifically including payments to developers or other nongovernmental persons as reimbursement for site preparation costs incurred by the developer or nongovernmental person.	\$12,000,000
5. Costs of renovation, rehabilitation, reconstruction, relocation, repair, or remodeling of any existing buildings, improvements, and fixtures within the Business District, and specifically including payments to developers or other nongovernmental persons as reimbursement for costs incurred by those developers or nongovernmental persons.	\$5,000,000
6. Costs of installation or construction within the Business District of buildings, structures, works, streets, improvements, equipment, utilities, or fixtures, and specifically including payments to developers or other nongovernmental persons as reimbursements for such costs incurred by such developer or nongovernmental person.	\$5,000,000
7. Financing costs, including but not limited to all necessary and incidental expenses related to the issuance of obligations, payment of any interest on any obligations issued under the Act that accrues during the estimated period of construction of any development or redevelopment project for which those obligations are issued and for not exceeding 36 months thereafter, and any reasonable reserves related to the issuance of those obligations.	\$675,000
8. Relocation costs to the extent that a municipality determines that relocation costs shall be paid or is required to make payment of relocation costs by federal or state law.	\$325,000
Total Estimated Business District Project Costs	\$33,675,000

Table 2 Notes:

1. All estimates are based on 2016 dollars and may be increased by five percent (5%) after adjusting for annual inflation reflected in the Consumer Price Index (CPI) for all Urban Consumers in U.S. Cities, published by the U.S. Department of Labor, as allowed by the Act.

2. Private redevelopment costs and investment are in addition to the above.
3. To the extent permitted by law, the Village reserves the right to adjust and transfer budgeted amounts within the Total Estimated Business District Project Costs among the categories of eligible costs set forth therein, provided any such adjustment or transfer shall not increase the Total Estimated Business District Project Costs, except as otherwise provided in these notes, unless otherwise amended.
4. Certain infrastructure work in connection with and appurtenant to the Business District can be undertaken under the Business District Act.
5. Total budgeted costs exclude any additional financing costs, including interest expense, capitalized interest, and any and all closing costs associated with any obligations issued, which shall be in addition to the Total Estimated Business District Project Costs.

F. Anticipated Sources of Funds to Pay Business District Project Costs

Upon designation of the Route 83/Plainfield Road Business District by Ordinance, as provided for by the Business District Act, within the Route 83/Plainfield Road Business District the Village intends to impose a retailers' occupation tax and service occupation tax (collectively the "Business District Sales Tax" or "Business District Sales Taxes"). The Business District Sales Taxes will be imposed for the term of the Business District (not to exceed twenty-three (23) years from the date of adoption of this Business District Plan) to pay for Business District Project Costs within the Route 83/Plainfield Road Business District and obligations issued to pay those costs.

Business District Sales Taxes will be the primary source of funds to pay for Business District Project Costs and secure obligations issued for such costs. In addition, other sources of funds which may be used to pay for Business District Project Costs or to secure municipal obligations are federal and state grants, investment income, private financing and other legally permissible funds the Village may deem appropriate.

An ordinance shall be adopted by the Village Board to create a separate fund entitled the "Route 83/Plainfield Road Business District Tax Allocation Fund." Pursuant to the Business District Act, the proceeds of the taxes received from the Business District Sales Taxes shall be deposited into this special fund for the purpose of paying or reimbursing Business District Project Costs and obligations incurred in the payment of those costs.

G. Anticipated Type and Source of Any Obligations to be Issued

The Village may issue obligations pursuant to the Business District Act and other authorities to provide for the payment or reimbursement of Business District Project Costs. The obligations may be secured by the Route 83/Plainfield Road Business District Tax Allocation Fund established for the Business District pursuant to the Business District Act and this Business District Plan, as well as other revenue sources as allowed by federal and state statutes.

One or more series of obligations may be issued from time to time in order to implement this Business District Plan. All obligations issued by the Village pursuant to this Business District Plan, the Business District Act, and other applicable federal and state statutes, shall be retired within twenty-three (23) years from the date of adoption of the ordinance

approving this Business District Plan. However, the final maturity date of any obligations issued may not be more than twenty (20) years from their respective date of issuance.

All forms of debt may be issued on either a taxable or tax-exempt basis, with either fixed or variable interest rates; with or without capitalized interest; with or without deferred principal retirement; with or without interest rate limits except as limited by law; with or without redemption provisions, and such other terms, as the Village may determine and deem appropriate, pursuant to federal and state statutes.

H. The Rate and Period of Business District Taxes to be Imposed

A rate of one percent (1.0%) shall be imposed as a retailers' occupation tax and service occupation tax within the Route 83/Plainfield Road Business District. Such tax shall be imposed for up to, but no more than, twenty-three (23) years pursuant to the provisions of the Business District Act.

The Village of Willowbrook may amend the above tax rate in accordance with the Business District Act.

V. Comparison of Business District Plan to Comprehensive Plan

The Village's Comprehensive Plan is entitled *Willowbrook Comprehensive Plan, Village of Willowbrook, October 25, 1993*. The following goals and objectives in the comprehensive plan reflect goals in this Business District Plan. (Goals and Objectives in the Comprehensive Plan that are not directly relevant to this Business District Plan are not included below):

COMMERCIAL DEVELOPMENT AND DESIGN

Goal

A system of commercial development which provides local residents with needed goods and services, attracts shoppers from nearby communities, and enhances the Village tax base.

Objectives

1. Maintain and expand the variety of retail and commercial services offered within the Village.
2. Ensure that all retail, office and commercial activities are concentrated within or near areas of similar or compatible uses.
3. Encourage coordinated and consolidated development of additional commercial facilities.
4. Promote new regional-oriented commercial development in selected areas.
5. Provide for convenient access to and adequate parking within all shopping areas.
6. Reinforce and improve aesthetic and operational conditions in existing commercial areas.
7. Discourage strip commercial development within the Village and encourage clusters or areas for commercial uses around key major street intersections.
8. Encourage the design of new commercial development to facilitate a system of pedestrian access.
9. Encourage coordinated and shared access wherever possible.
10. Utilize fiscal impact analysis for new major commercial developments to ensure existing community services and facilities will not be negatively impacted by the manner in which the new development is to be undertaken.
11. Maintain a program that strictly and uniformly regulates signage while providing for the identification and operation of Village businesses.

TRANSPORTATION

Goal

A balanced transportation system which provides for safe and efficient movement of vehicles and pedestrians, reinforces surrounding land development and enhances regional transportation facilities.

Objectives

1. Minimize congestion on all Village streets.
2. Ameliorate localized traffic operational problems.
4. Provide for safe bicycle and pedestrian circulation throughout the Village.
5. Ensure coordinated traffic circulation within proposed development areas.
6. Continue to work with DuPage County and the Illinois Department of Transportation in development of plans to widen Route 83 to ensure outcomes consistent with policies contained within this plan.
7. Provide for limited and consolidated vehicular access points along Route 83, Plainfield Road, 75th Street, and 63rd Street.
8. Ensure adequate road surface conditions to accommodate required traffic volumes.
11. Identify potential Park and Ride sites or satellite parking lots within the Village which can connect Pace bus service and commuter-rail passenger stations.
12. Improve the overall appearance of the community's arterial streets through landscaping and other aesthetic improvements.
13. Ensure that streets carry the volumes of traffic for which they are designed through effective traffic and access controls.
15. Ensure development of the collector and arterial street system through the acquisition or dedication of sufficient right-of-way within large scale development areas.
16. Continue to maintain and improve streets, curbs, gutters, and sidewalks as part of the Village's capital improvements program.

The Village's Future Land Use Map, as shown in **Exhibit G** of this report, shows properties in the Business District as being designated for commercial uses. This generally corresponds to the land uses outlined in this Business District Plan.

In summary, the above statements and objectives in the Village's Comprehensive Plan and the land uses identified in the Village's Future Land Use Map reflect the goals and land uses in this Business District Plan.

VI. Establishment and Term of the Business District

The establishment of the Route 83/Plainfield Road Business District shall become effective upon adoption of an ordinance by the Village Board adopting this Business District Plan and designating the Village Business District. Redevelopment Agreements between the Village and any developers or other private parties shall be consistent with the provisions of the Business District Act and this Business District Plan.

The Route 83/Plainfield Road Business District Sales Taxes described in **Section IV** of this Business District Plan may not be imposed for more than twenty-three (23) years pursuant to the provisions of the Business District Act.

Upon payment of all Business District Project Costs and the retirement of all Business District obligations, but in no event more than twenty-three (23) years after the date of the Village Board's adoption of the ordinance approving this Business District Plan, the Village shall adopt an ordinance immediately rescinding the Business District Taxes imposed pursuant to the Business District Act. Any surplus funds then remaining in the Business District Tax Allocation Fund shall then be distributed to the municipal treasurer for deposit into the general corporate fund of the municipality.

VII. Formal Findings

Based upon the information described in this Business District Plan, the Village Board of the Village of Willowbrook makes the following formal findings and determinations:

1. The Route 83/Plainfield Road Business District is a contiguous area and includes only parcels of real property directly and substantially benefitted by the Business District Plan.
2. The Business District, in its entirety, is located within the Village limits of Willowbrook, Illinois.
3. The Route 83/Plainfield Road Business District is a “blighted area” as defined in the Business District Act due to the existence of the following factors:
 - Defective, non-existent, or inadequate street layout
 - Unsanitary or unsafe conditions
 - Deterioration of site improvements
 - Improper subdivision or obsolete platting
 - Economic underutilization of the area
4. The Route 83/Plainfield Road Business District Plan conforms to the Village’s Comprehensive Plan for the development of the municipality as a whole.
5. The Route 83/Plainfield Road Business District, on the whole, has not been subject to growth or development by private enterprises and would not reasonably be anticipated to be developed or redeveloped without the establishment of the Business District and the adoption of this Business District Plan.

VIII. Provisions for Amending the Business District

The Village of Willowbrook may amend this Business District Plan in accordance with the Business District Act.

Exhibits

Exhibit A: Business District Boundary Map

**Village of Willowbrook
Route 83/Plainfield Road Business District
Exhibit A - Boundary Map**

 **Proposed District Boundary**

★ A portion of parcel 0923400035 is included for easement access only

Robert Kingery Highway

Plainfield Rd

Adams St

Tanglewood Ln

Willowway Ln

Cottonwood Ct

Janet Av

Capitol Dr

72nd Ct

0 30 60 120 180 240 Feet



Exhibit B: Business District Legal Description

LEGAL DESCRIPTION (ROUTE 83\PLAINFIELD ROAD BUSINESS DISTRICT):

THAT PART OF THE SOUTH HALF OF SECTION 23 AND THE NORTH HALF OF SECTION 26 TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN IN DUPAGE COUNTY, ILLINOIS, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST EASTERLY SOUTHEAST CORNER OF LOT 1 IN PERSEVERANCE SUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23 AND THE NORTHEAST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 30, 2007 AS DOCUMENT NO. R2007-141528; THENCE NORTHERLY, WESTERLY, NORTHERLY, EASTERLY AND NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 1 IN WILLOWBROOK CENTER UNIT NO. 1, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 16, 1963 AS DOCUMENT NO. R63-37895; THENCE EASTERLY ALONG SAID SOUTH LINE TO THE SOUTHEAST CORNER OF SAID LOT 1; THENCE NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 2 IN LENZ'S ASSESSMENT PLAT, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JULY 5, 1955 AS DOCUMENT NO. 763597; THENCE EASTERLY ALONG SAID SOUTH LINE AND ALONG THE EASTERLY EXTENSION THEREOF TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ADAMS STREET; THENCE NORTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD; THENCE SOUTHWESTERLY ALONG SAID NORTHERLY RIGHT-OF-WAY LINE TO THE SOUTHWESTERLY CORNER OF LOT 1 IN 1ST BURLINGTON BANK, WILLOWBROOK RESUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 23, 1986 AS DOCUMENT NO. R86-115152; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 1 AND ALONG THE NORTHERLY EXTENSION THEREOF TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF 69TH STREET; THENCE WESTERLY ALONG SAID NORTH RIGHT-OF-WAY LINE TO THE SOUTHWEST CORNER OF LOT 14 IN SCHILLER'S ADDITION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JUNE 14, 1950 AS DOCUMENT NO. 595530; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 14 TO THE SOUTHWEST CORNER OF LOT 12 IN WEST TOWN DEVELOPMENT COMPANY'S RESUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JULY 22, 1955 AS DOCUMENT NO. 766039; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 12 AND ALONG THE WEST LINE OF LOT 13 IN SAID WEST TOWN DEVELOPMENT COMPANY'S RESUBDIVISION TO THE NORTHEAST CORNER OF PARCEL 1 IN WILLOWBROOK OFFICE PARK LOT 12 ASSESSMENT PLAT, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 8, 2005 AS DOCUMENT NO. R2005-197465; THENCE WESTERLY, SOUTHERLY, SOUTHWESTERLY AND WESTERLY ALONG THE NORTH LINE OF SAID PARCEL 1 115.50 FEET (MORE OR LESS) TO A POINT ON THE NORTHEASTERLY LINE OF A PERMANENT EASEMENT (AS SHOWN ON AN EASEMENT EXHIBIT PREPARED BY MANHARD CONSULTING, LTD AND DATED JUNE 9, 2016); THENCE NORTHWESTERLY ALONG SAID NORTHEASTERLY PERMANENT EASEMENT LINE TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ILLINOIS ROUTE 83; THENCE NORTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE TO A POINT OF INTERSECTION WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF LOT 15 IN BLOCK 35 IN TRI STATE VILLAGE UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER OF SAID SECTION 23 AND THE NORTHWEST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 20, 1944 AS DOCUMENT NO. 465114; THENCE WESTERLY ALONG SAID EASTERLY EXTENSION TO A POINT ON THE WEST RIGHT-OF-WAY LINE OF SAID ILLINOIS ROUTE 83; THENCE SOUTHERLY ALONG SAID WEST RIGHT-OF-WAY LINE TO A POINT OF INTERSECTION WITH THE WESTERLY EXTENSION OF THE SOUTH RIGHT-OF-WAY LINE OF 72ND COURT; THENCE EASTERLY ALONG

SAID WESTERLY EXTENSION TO A POINT OF INTERSECTION WITH SAID EAST RIGHT-OF-WAY LINE OF ILLINOIS ROUTE 83; THENCE EASTERLY, SOUTHERLY AND EASTERLY ALONG SAID SOUTH RIGHT-OF-WAY LINE OF 72ND COURT TO A POINT ON THE EAST LINE OF LOT 6 IN HINSDALE HIGHLAND ESTATES, BEING A SUBDIVISION IN THE NORTHEAST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 23, 1954 AS DOCUMENT NO. 720969; THENCE NORTHERLY ALONG SAID EAST LINE EXTENDED NORTHERLY TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL (P.I.N. 09-23-405-019):

THAT PART OF LOT 4 WHICH LIES EAST OF THE EAST LINE OF ILLINOIS ROUTE 83 AND NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952 AND WHICH LIES SOUTH OF A LINE DRAWN PERPENDICULAR TO THE EAST LINE OF SAID ILLINOIS ROUTE 83 TO A POINT WHICH IS 298.40 FEET NORTH OF THE CENTER LINE OF PLAINFIELD ROAD (MEASURED ALONG THE EAST LINE OF SAID ROUTE 83), ALSO, THAT PART OF LOT 3 WHICH LIES NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952, AND WHICH LIES SOUTHERLY OF A LINE DRAWN FROM A POINT IN THE WEST LINE OF SAID LOT 3, SAID POINT BEING 138.94 FEET NORTH OF THE NORTH LINE OF SAID PLAINFIELD ROAD (MEASURED ALONG SAID WEST LINE OF LOT 3) TO A POINT IN THE NORTHERLY LINE OF SAID PLAINFIELD ROAD, SAID LOTS 3 AND 4 BEING IN OWNER'S SUBDIVISION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 23, AND THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, ALL IN TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED APRIL 24, 1931 AS DOCUMENT NO. 311500, IN DUPAGE COUNTY, ILLINOIS.

06/09/2016

Exhibit C: Business District Parcel List

Route 83/Plainfield Road Business District Parcels (PINs)
09-23-400-036
09-23-405-018
09-23-406-003
09-23-406-015
09-23-406-018
09-26-200-010
09-23-400-035*

* A portion of this parcel is included for easement access only.

Exhibit D: Business District Address List

Route 83/Plainfield Road Business District Address List							
Address			Unit	Village	State	Zip	PIN
825	PLAINFIELD	RD	H	WILLOWBROOK	IL	60527-1703	09-23-406-018
7101 S	KINGERY	HWY	G2	WILLOWBROOK	IL	60527-5525	09-26-200-010
7111 S	KINGERY	HWY	A1-A3	WILLOWBROOK	IL	60527-5525	09-26-200-010
7117 S	KINGERY	HWY	A4	WILLOWBROOK	IL	60527-5525	09-26-200-010
7121 S	KINGERY	HWY	A5	WILLOWBROOK	IL	60527-5525	09-26-200-010
7125 S	KINGERY	HWY	b	WILLOWBROOK	IL	60527-5525	09-26-200-010
7135 S	KINGERY	HWY	G1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7137 S	KINGERY	HWY	G1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7143 S	KINGERY	HWY	E	WILLOWBROOK	IL	60527-5525	09-26-200-010
7145 S	KINGERY	HWY	C1-C3	WILLOWBROOK	IL	60527-5525	09-26-200-010
7155 S	KINGERY	HWY	D	WILLOWBROOK	IL	60527-5525	09-26-200-010
7163 S	KINGERY	HWY	E1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7165 S	KINGERY	HWY	F2	WILLOWBROOK	IL	60527-5525	09-26-200-010
7167 S	KINGERY	HWY	F1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7169 S	KINGERY	HWY	Q1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7171 S	KINGERY	HWY	Q2	WILLOWBROOK	IL	60527-5525	09-26-200-010
7173 S	KINGERY	HWY	Q3	WILLOWBROOK	IL	60527-5525	09-26-200-010
7175 S	KINGERY	HWY	J	WILLOWBROOK	IL	60527-5525	09-26-200-010
7181 S	KINGERY	HWY	L1	WILLOWBROOK	IL	60527-5525	09-26-200-010
7183 S	KINGERY	HWY	L2	WILLOWBROOK	IL	60527-5525	09-26-200-010
7185 S	KINGERY	HWY	L3	WILLOWBROOK	IL	60527-5525	09-26-200-010
7187 S	KINGERY	HWY	L4	WILLOWBROOK	IL	60527-5525	09-26-200-010
7189 S	KINGERY	HWY	L5	WILLOWBROOK	IL	60527-5525	09-26-200-010
7191 S	KINGERY	HWY	L6	WILLOWBROOK	IL	60527-5525	09-26-200-010
7195 S	KINGERY	HWY	P	WILLOWBROOK	IL	60527-5525	09-26-200-010
7199 S	KINGERY	HWY	N	WILLOWBROOK	IL	60527-5525	09-26-200-010
820	PLAINFIELD	RD		WILLOWBROOK	IL	60527-5340	09-23-405-018
840	PLAINFIELD	RD		WILLOWBROOK	IL	60527-5340	09-23-405-018
715	PLAINFIELD	RD		WILLOWBROOK	IL	60527-5377	09-23-406-015
735	PLAINFIELD	RD		WILLOWBROOK	IL	60527-7638	09-23-406-003

Exhibit E: Survey of Parcels

The table below shows the results of field survey and other research conducted in April 2016.

	PIN	Defective, Non-existent or Inadequate Street Layout	Unsanitary or Unsafe Conditions	Deterioration of Site Improvements	Improper Sub- division or Obsolete Platting	Economic Underutilization*
1	09-23-400-036	X	X		X	X
2	09-23-405-018	X	X	X		X
3	09-23-406-003	X	X	X	X	X
4	09-23-406-015	X	X	X		X
5	09-23-406-018	X	X			X
6	09-26-200-010	X	X			X

* Economic Underutilization is measured by the EAVs in the Business District as a whole rather than by block or individually.

Exhibit F: Representative Photographs of Conditions in the Business District

The photographs on the following pages are representative samples of the conditions found in the Business District and demonstrate the “blighted area” factors present at the time of this Business District Plan.













Exhibit G: Future Land Use Map



VILLAGE OF WILLOWBROOK ZONING MAP

ADOPTED AND APPROVED BY THE VILLAGE OF WILLOWBROOK MARCH 24, 2014



SHEET SIZE: 24" x 36" SCALE: 1 INCH EQUALS 300' FEET
SHEET NO. 037 - 15 OF 17 SHEETS TOTAL 037/007

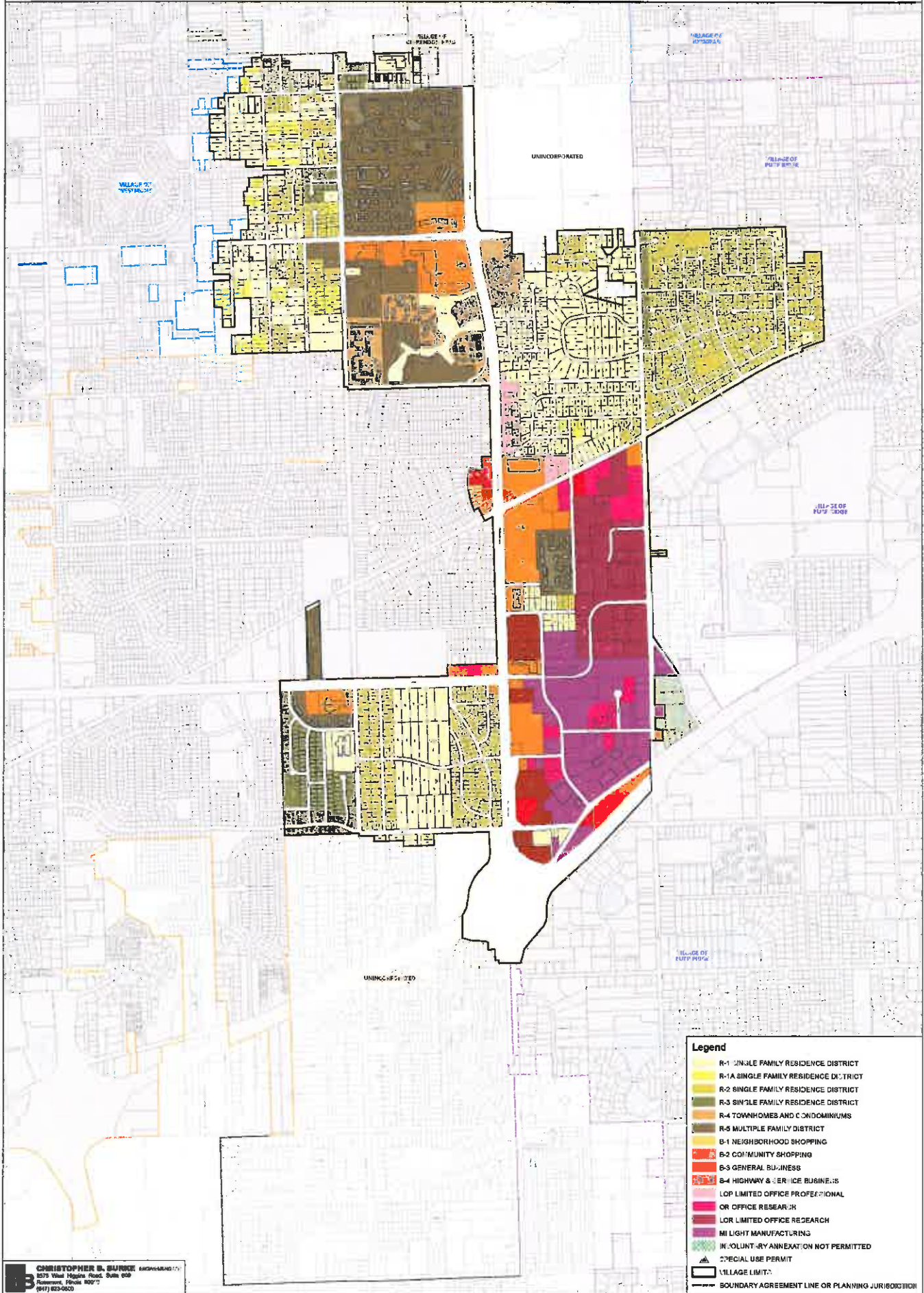


Exhibit H: Traffic Impact Study

Traffic Impact Study Redevelopment of Kmart Store Parcel Willowbrook, Illinois



Submitted by



Kenig, Lindgren, O'Hara, Aboona, Inc.

October 22, 2014

Revised April 9, 2015



Introduction

This memorandum summarizes the results of a traffic impact study conducted by Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) for the proposed redevelopment of the Kmart store parcel located in Willowbrook, Illinois. The parcel is located in the northeast quadrant of the signalized intersection of Kingery Highway (IL 83) with Plainfield Road and contains a former 114,605 square-foot Kmart store. Access to the parcel is currently provided via (1) a full access drive on Plainfield Road aligned opposite the Willowbrook Town Center access drive, (2) a full access drive on Plainfield Road approximately 410 feet northeast of IL 83 and (3) a restricted right-turn in/right-turn out access drive on IL 83.

As proposed, the existing store will be razed and redeveloped with a 128,935 square-foot commercial development that is to contain the following land-uses.

- Pete's Fresh Market grocery store (69,054 square feet)
- Commercial space (45,493 square feet)
- Restaurant space (12,443 square feet)
- Coffee/donut store with a drive-through lane (1,945 square feet)

Access to the development will be provided via (1) the existing full access drive aligned opposite the Willowbrook Town Center access drive, (2) a right-in/right-out access drive located on IL 83 just south of the existing access drive and (3) a new right-in/left-in/right-out access drive on IL 83 at the north end of the site. The second full access drive on Plainfield Road and the existing IL 83 access drive currently serving the parcel will be eliminated. As part of the development, a traffic signal is proposed at the intersection of Plainfield Road with the development access drive and the Willowbrook Town Center access drive as well as roadway improvements along Plainfield Road and IL 83.

The purpose of this study was to examine existing traffic conditions, assess the impact that the proposed development would have on traffic conditions in the area and determine what additional geometric and traffic control improvements are necessary to accommodate the projected conditions. In addition, a traffic signal warrant study was performed to determine if a traffic signal will be warranted at the Plainfield Road/development access drive/Willowbrook Town Center access drive intersection. The sections of this report present the following.

- Existing roadway conditions
- A description of the proposed development
- Directional distribution of the development generated traffic
- Vehicle trip generation for the proposed development
- Projected traffic conditions, including ambient growth and access to the development
- Traffic analyses for the weekday morning, weekday evening and Saturday midday peak hours for existing and projected traffic conditions
- Recommendations with respect to site access and the adjacent roadway network
- A traffic signal warrant study conducted at the Plainfield Road/development access drive/Willowbrook Town Center access drive intersection

Existing Conditions

Existing traffic and roadway conditions were documented based on field visits and traffic counts conducted by KLOA, Inc. The following provides a detailed description of the physical characteristics of the roadways including geometry and traffic control, adjacent land uses and peak hour traffic flows along area roadways.

Site Location

The site of the development is located in the northeast quadrant of the signalized intersection of IL 83 with Plainfield Road and is currently occupied by a vacant 114,605 square-foot Kmart store. Land uses in the area include the Willowbrook Town Center to the south, a Chase bank and the USA Realty office building to the east, and single-family homes to the north. A Phillips 66 gas station is located in the northeast corner of the IL 83/Plainfield Road intersection and is bounded by the subject site on its north and east sides. **Figure 1** illustrates the location of the site and **Figure 2** shows an aerial view of the site.

Existing Roadway System Characteristics

The characteristics of the existing roadways that surround the proposed development are illustrated in **Figure 3** and described below.

Kingery Highway (IL 83) is a north-south major arterial that is under the jurisdiction of the Illinois Department of Transportation (IDOT) and has been designated as a Strategic Regional Arterial (SRA) route. The roadway generally has two-lanes in each direction separated by a grass median. A third northbound lane is provided on IL 83 between 73rd Court and Plainfield Road where it terminates as a right-turn lane serving Plainfield Road. At its signalized intersection with Plainfield Road, IL 83 provides dual left-turn lanes, two through lanes and an exclusive right-turn lane on the southbound approach. The northbound approach provides an exclusive left-turn lane, two through lanes and an exclusive right-turn lane. At its signalized intersection with 72nd Court, the southbound approach provides an exclusive left-turn lane and two through lanes. The northbound approach provides two through lanes and a shared through/right-turn lane. IL 83 has a posted speed limit of 45 mph, has an average daily traffic (ADT) volume of 47,100 vehicles and is classified as a class II truck route.

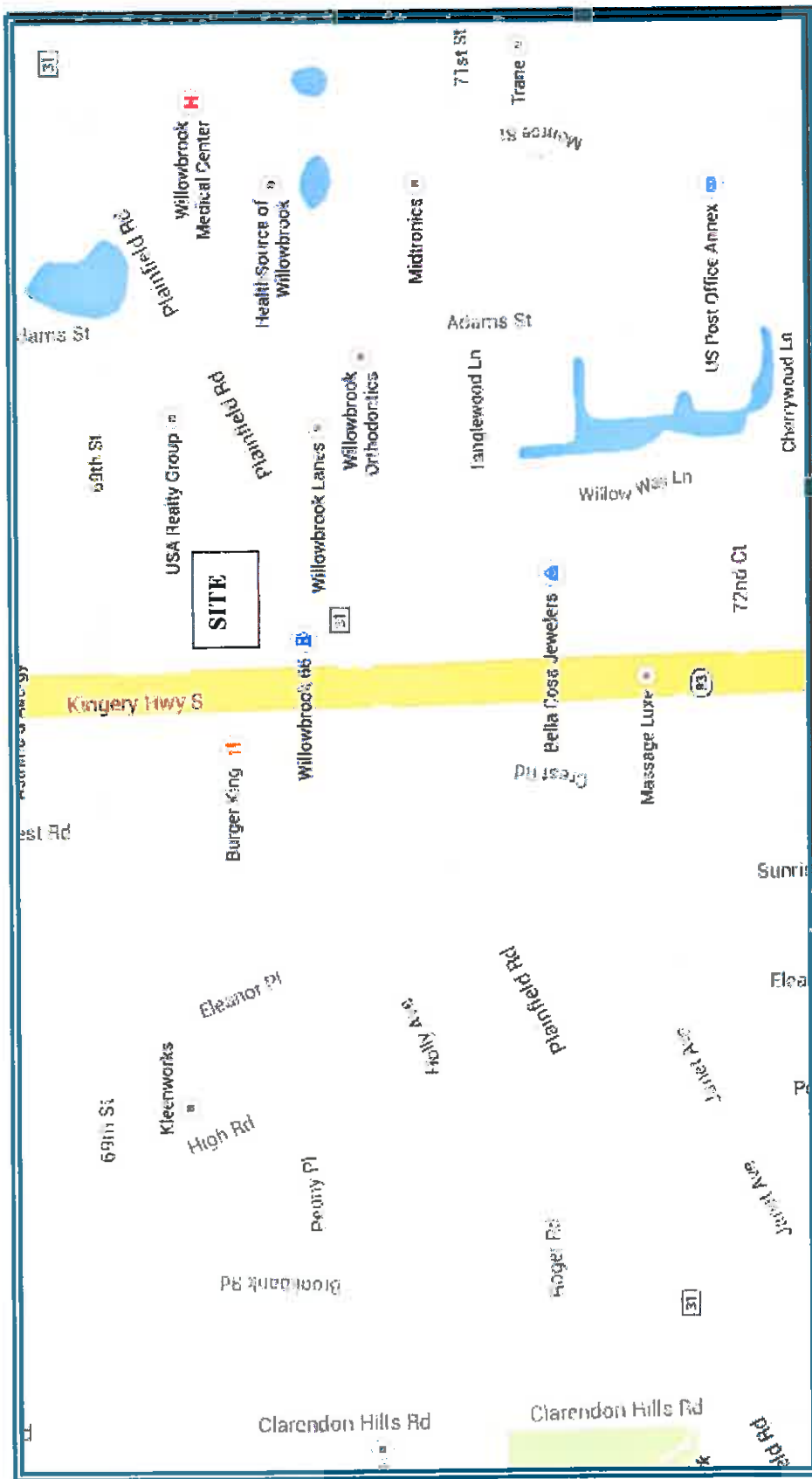


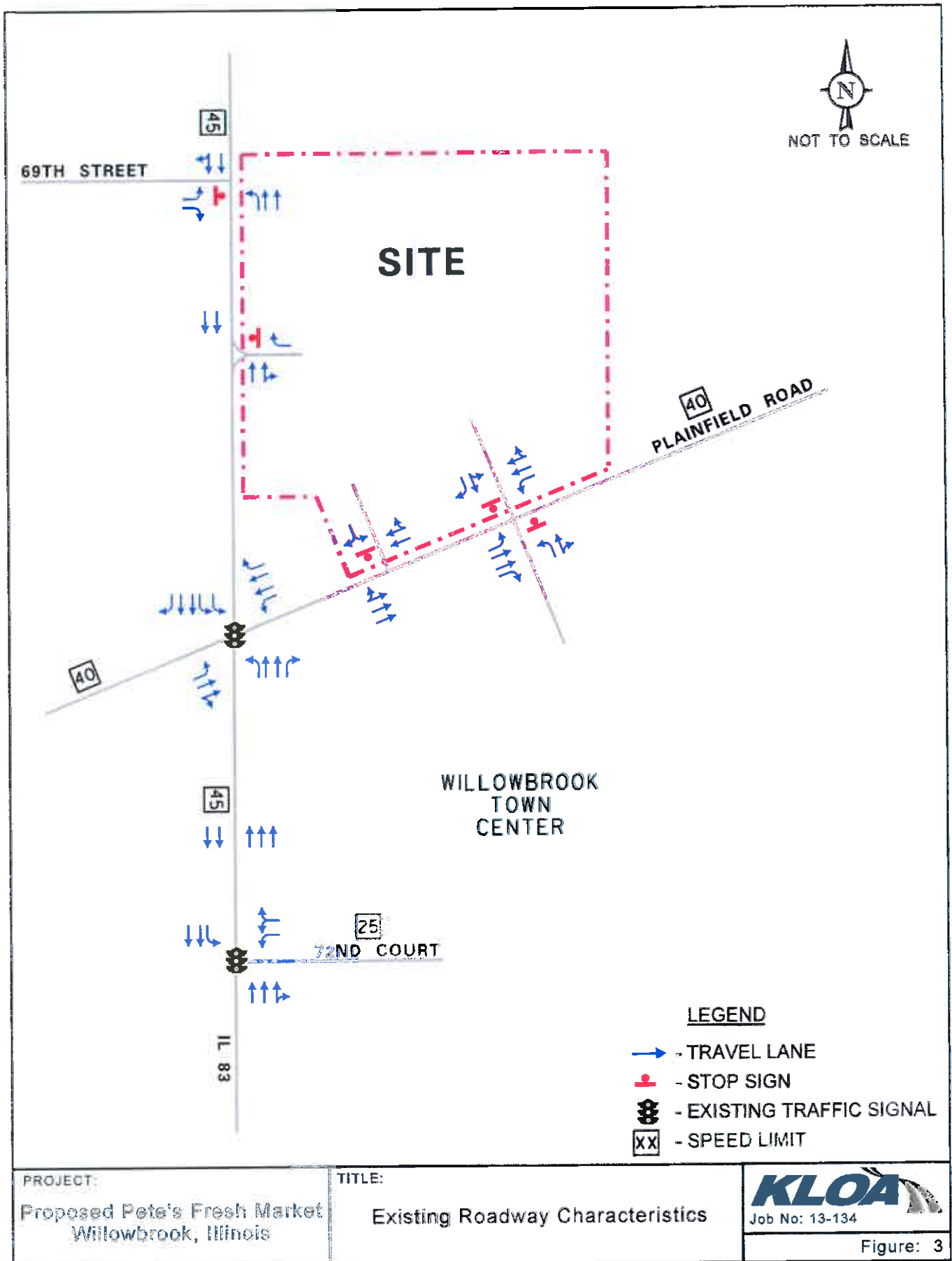
Figure 1

Site Location



Aerial View of Site

Figure 2



Plainfield Road is a northeast-to-southwest minor arterial roadway that is under the jurisdiction of the DuPage County Division of Transportation (DuDOT). The roadway generally has two through lanes in each direction. A third northeast bound through lane is provided on Plainfield Road between IL 83 and Willowbrook Town Center access drive where it terminates as a right-turn lane serving the Willowbrook Town Center. At its signalized intersection with IL 83, it provides an exclusive left-turn lane, two through lanes and an exclusive right-turn lane on the southwest approach. The northeast approach provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane. At its unsignalized intersection with the site access drive/Willowbrook Town Center access drive intersection, it provides an exclusive left-turn lane, a through lane and a shared through/right-turn lane on the southwest approach. The northeast approach provides an exclusive left-turn lane, two through lanes and an exclusive right-turn lane. Plainfield Road has a posted speed limit of 40 mph and has an ADT volume of 21,800 vehicles.

72nd Court is an east-west collector road that provides access to the Lake Willow Way residential development, the Willowbrook Town Center and a specialty retail center on the south side of 72nd Court. At its signalized intersection with IL 83, 72nd Court provides an exclusive left-turn lane and a shared left/right-turn lane. 72nd Court is under the jurisdiction of the Village of Willowbrook and has a posted speed limit of 25 mph.

The Willowbrook Town Center access drive is located opposite the primary access drive to the site. At its intersection with Plainfield Road, the Willowbrook Town Center access drive provides an exclusive left-turn lane and a shared through/right-turn lane and the site access drive provides a shared through/left-turn lane and an exclusive right-turn lane. Both approaches are under stop sign control at its intersection with Plainfield Road.

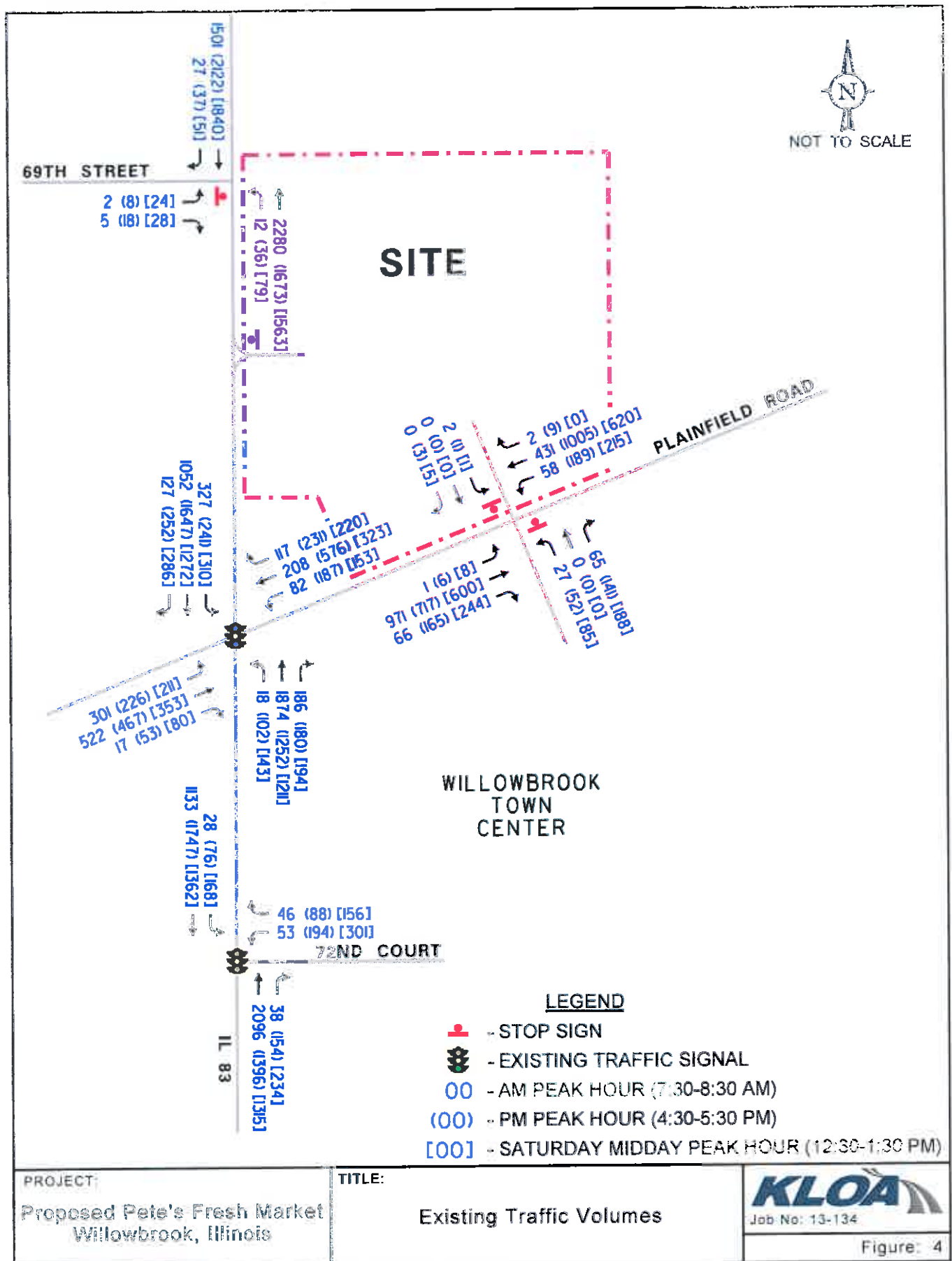
69th Street is an east-west local road that has a physical barrier provided just west of IL 83 prohibiting access to the residential neighborhood. At its unsignalized intersection with IL 83, 69th Street provides a two-lane cross section that is under stop sign control.

Existing Traffic Volumes

KLOA, Inc. conducted manual traffic, pedestrian and bicycle counts at the following intersections within the vicinity of the site.

- IL 83 with Plainfield Road
- IL 83 with 72nd Court
- Plainfield Road with Willowbrook Town Center access drive/site's access drive
- IL 83 with 69th Street

The counts were generally conducted on Wednesday, August 14, 2013 from 7:00 A.M. to 9:00 A.M. and from 4:00 P.M. to 6:00 P.M. and on Saturday, August 10, 2013 from 12:00 P.M. to 2:00 P.M. The counts for the intersection of IL 83 with 69th Street were conducted on Tuesday March 10, 2015 and Saturday March 7, 2015 during the same periods. Summaries of the traffic counts show that the weekday morning peak hour occurred from 7:30 A.M. to 8:30 A.M., the weekday evening peak hour occurred from 4:30 P.M. to 5:30 P.M. and the Saturday peak hour occurred from 12:30 P.M. to 1:30 P.M. **Figure 4** illustrates the existing peak hour traffic and pedestrian volumes. The raw traffic counts are included in the Appendix.



Development Traffic Characteristics

To evaluate the impact of the proposed commercial development on the area roadway system, it was necessary to quantify the number of vehicle trips the overall site will generate during the weekday morning, weekday evening and Saturday midday peak hours and then determine the directions from which this traffic will approach and depart the site.

Existing Site Conditions

The site is currently occupied by a vacant 114,605 square-foot Kmart store. Access to the parcel is currently provided via (1) a full access drive on Plainfield Road aligned opposite the Willowbrook Town Center access drive, (2) a full access drive on Plainfield Road approximately 410 feet east of IL 83 and (3) a restricted right-turn in/right-turn out access drive on IL 83.

Proposed Development Plan

As proposed, the parcel will be redeveloped with a 128,935 square-foot commercial development that will contain the following land uses.

- Pete's Fresh Market grocery store (69,054 square feet)
- Commercial space (45,493 square feet)
- Restaurant space (12,443 square feet)
- Coffee/donut store with a drive-through lane (1,945 square feet)

A copy of the site plan is provided in the Appendix.

Development Access

As previously indicated, access to the existing site is currently provided via two full access drives on Plainfield Road and a restricted right-turn in/right-turn out access drive on IL 83. As proposed, the western Plainfield Road full access drive and the IL 83 access drive will be eliminated and the development will be served via the following three access drives.

1. *Plainfield Road Access Drive:* This existing access drive is located opposite the Willowbrook Town Center access drive and is proposed to be under traffic signal control allowing full ingress/egress movements to/from the proposed development. The access drive will be designed to provide two inbound lanes and two outbound lanes, with the outbound lanes striped for an exclusive left-turn lane and a shared through/right-turn lane. The Willowbrook Town Center access drive will continue to provide an exclusive left-turn lane and a shared through/right-turn lane. An exclusive left-turn lane is currently provided on Plainfield Road serving this access drive. In addition, an exclusive right-turn lane will be provided on the southwest approach of Plainfield Road serving the access drive. As part of the development, this intersection is proposed to be under traffic signal control.

2. *IL 83 Right-In/Right-Out Access Drive:* This access drive is proposed to be located just south of the existing right-in/right-out access drive or approximately 530 feet north of Plainfield Road. The access drive will provide two inbound lanes and one outbound lane with the outbound lane under stop sign control.
3. *IL 83 Right-In/Left-In/Right-Out Service Access Drive:* This access drive will be located at the north end of the site opposite 69th Street and the existing IL 83 median break. The access drive will be physically restricted to right-turn in/left-turn in/right-turn out movements only and will provide one inbound lane and one outbound lane, with the outbound lane under stop sign control. An exclusive southbound left-turn lane will be provided on IL 83 serving the access drive. In addition, the third northbound through lane to be provided along the site's frontage will terminate as a right-turn lane serving the access drive.

Truck Route

The majority of trucks and delivery vehicles will enter the site via the proposed right-in/left-in/right-out access drive on IL 83 and will exit via the full access drive on Plainfield Road opposite the Willowbrook Town Center access drive. Truck traffic will be prohibited from exiting the development via the northern IL 83 access drive.

Roadway Improvements

As part of the development, a traffic signal is proposed to be installed at the intersection of Plainfield Road/development access drive/Willowbrook Town Center access drive. A traffic signal warrant study, presented later in the report, shows that a traffic signal is warranted based on the existing traffic volumes. In order to accommodate the proposed signalized intersection and the additional traffic to be generated by the development, the following roadway improvements are proposed along Plainfield Road as part of the development.

- Dual left-turn lanes will be provided on both approaches of Plainfield Road at its intersection with IL 83.
- In addition to the dual left-turn lanes and the two-through lanes, an exclusive right-turn lane will be provided on the southwest bound approach of Plainfield Road at its intersection with IL 83. To maximize the storage along this approach, the right-turn lane and taper will extend to the development access drive.
- The third northbound through lane on IL 83 that currently terminates as a right-turn lane at its intersection with Plainfield Road will be extended to the north of the site and will terminate as a right-turn lane serving the northern access drive.
- The traffic signal at the IL 83/Plainfield Road intersection will be modified to accommodate the proposed roadway improvements.

- In addition to the traffic signal, an exclusive right-turn lane will be provided on the southwest bound approach of Plainfield Road at its intersection with the development access drive/Willowbrook Town Center access drive.

A copy of the preliminary roadway improvement plans are provided in the Appendix.

Directional Distribution of Site Traffic

The directional distribution of how traffic will approach and depart the development was estimated based on a combination of existing travel patterns, the direction/location of nearby residential neighborhoods, the location of the proposed access driveways serving the development, and the existing roadway characteristics and traffic controls. The directional distribution is illustrated in **Figure 5**.

Development Traffic Generation

The estimate of traffic to be generated by the development was based on trip rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition. Pass-by vehicle trips, or those vehicles on the adjacent roadway network already enroute to another destination (i.e. home to work or work to home) were also considered and included in the development-generated vehicle trip estimation. A pass-by reduction of 20 percent was applied to the estimated trip generation volumes.

Table 1 estimates the total trips to be generated by the development for the weekday morning, weekday evening and Saturday midday peak hours.

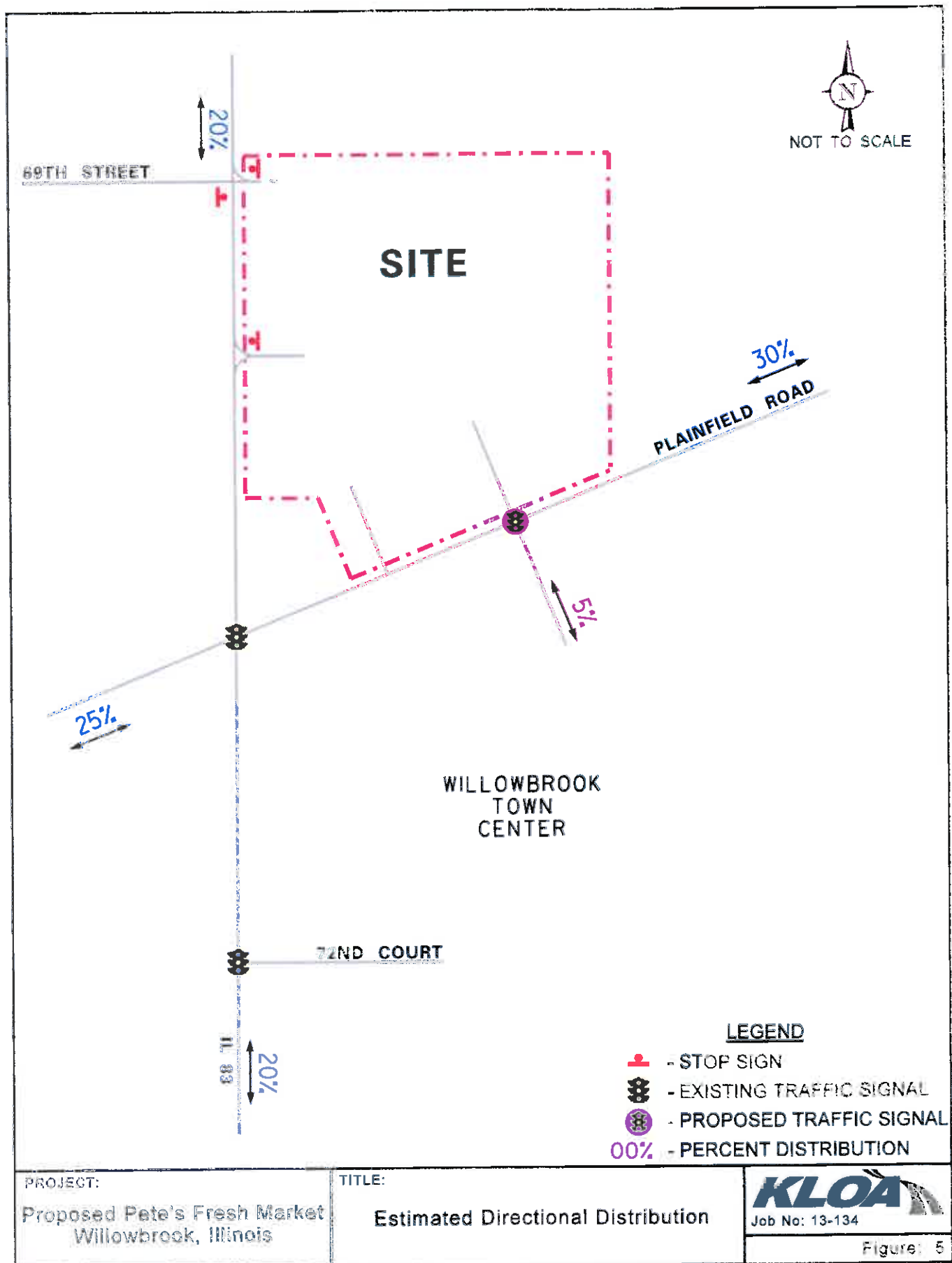


Table 1
ESTIMATED SITE-GENERATED TRAFFIC VOLUMES

Land Use/Size	ITE Land- Use Code	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
		In	Out	In	Out	In	Out
Grocery Store - 69,054 s.f.	850	146	89	302	290	375	360
Restaurants - 12,443 s.f.	932	30 ¹	25 ¹	74	49	93	82
Specialty Retail - 14,215 s.f. ²	820	8	5	25	28	36	33
Department Store - 31,278 s.f.	875	11	7	30	28	55	49
Coffee/Donut Shop - 1,945 s.f.	937	<u>100</u>	<u>96</u>	<u>42</u>	<u>42</u>	<u>82</u>	<u>82</u>
Sub Total		295	222	473	437	641	606
Less 20% Pass-By Trips		<u>-53</u>	<u>-53</u>	<u>-93</u>	<u>-93</u>	<u>-127</u>	<u>-127</u>
Total New Trips		242	169	380	344	514	479

1 - Trip generation during the morning peak hour was only calculated for the Lume's Breakfast-Lunch restaurant (5,053 square feet - see Site Plan in the Appendix)

2 - Trip generation calculated using the average rate of land use code 820

Development Traffic Assignment

The new peak hour traffic volumes projected to be generated by the proposed development (refer to Table 1) were assigned to the area roadways based on the directional distribution analysis (Figure 5) and the proposed access drive and are shown in **Figure 6**. **Figure 7** shows the assignment of the pass-by vehicle trip volumes.

Regional Traffic Growth

The existing traffic volumes (Figure 3) were increased by a regional growth factor based on Year 2040 projected average daily traffic volumes (ADTs) provided by the Chicago Metropolitan Agency for Planning (CMAP). These volumes represent an increase in regional ambient growth not attributable to any particular planned development. The traffic volumes on IL 83 were increased by 0.25 percent per year while the traffic volumes on Plainfield Road were increased by one percent per year based on DuDOT review of a previous study conducted for the subject site. **Figures 8 and 9** show the Year 2020 and 2040 Background Traffic Volumes (No Build), respectively.

Projected Year 2020 and 2040 Traffic Volumes

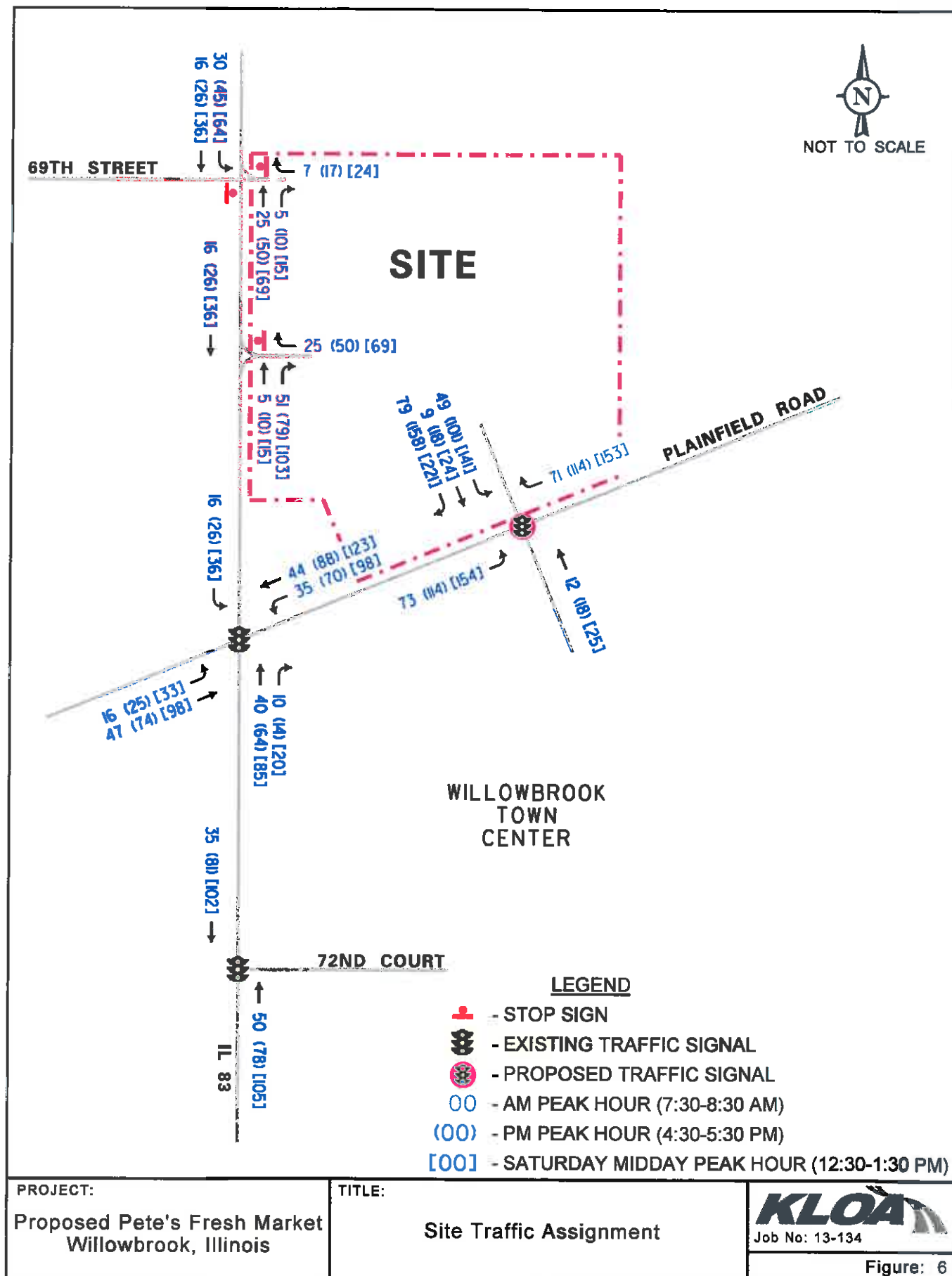
In order to obtain projected year 2020 and 2040 traffic volumes, the existing traffic volumes were added to the background traffic volumes and the development-generated traffic volumes. **Figures 10 and 11** illustrate the projected year 2020 and 2040 total projected traffic volumes.

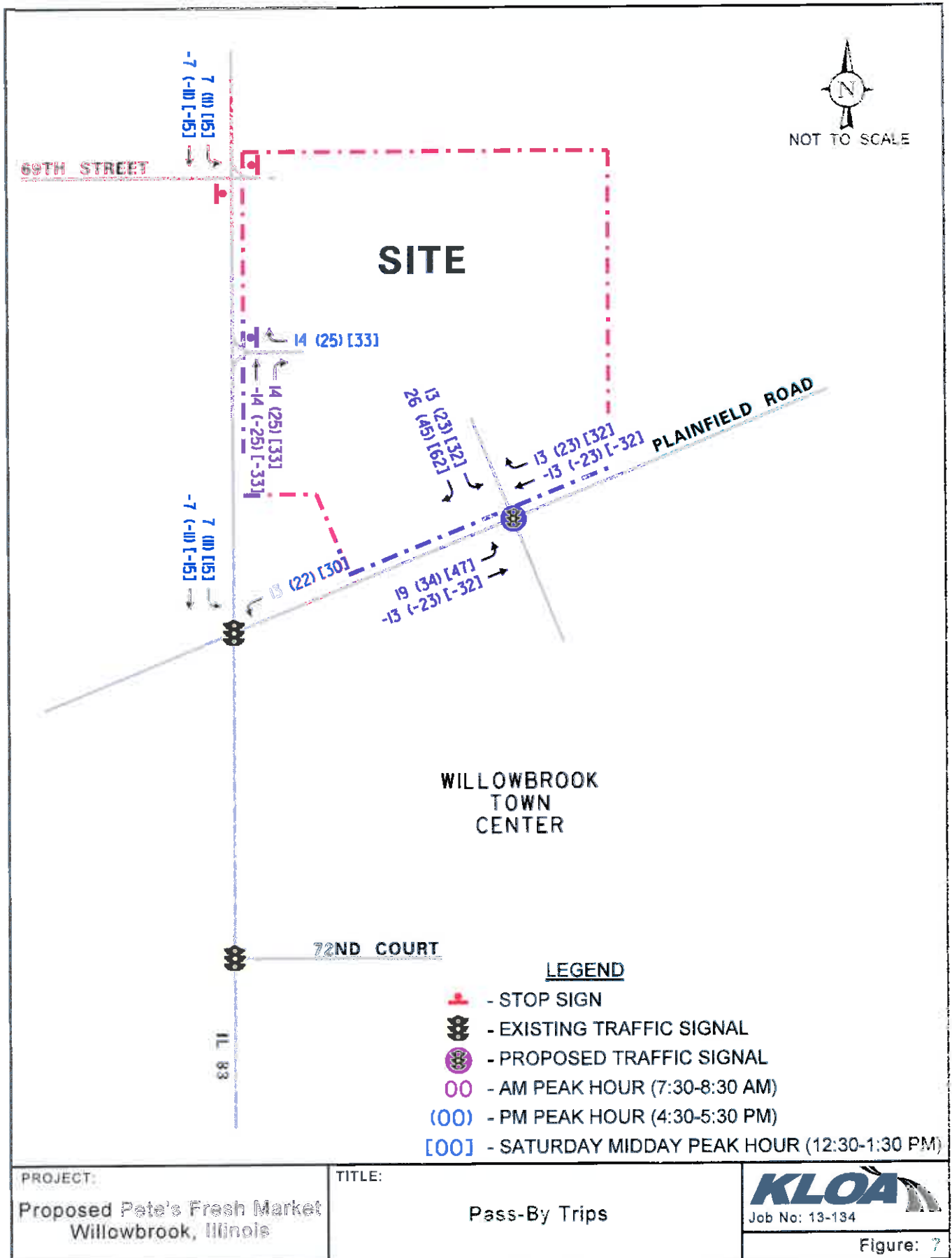
Traffic Evaluation

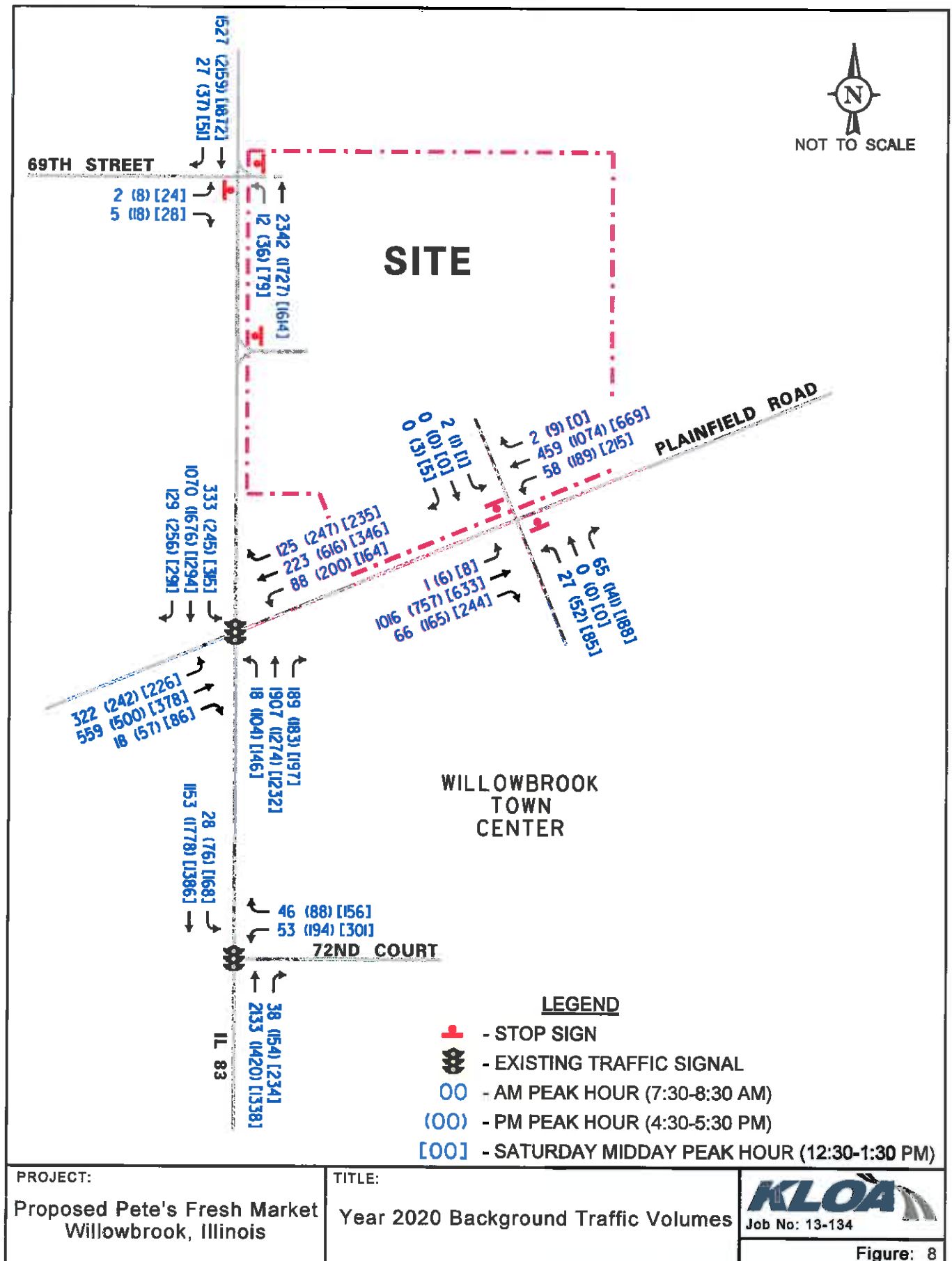
The following provides an evaluation conducted for the weekday morning, weekday evening, and Saturday midday peak hour periods. The analysis includes conducting capacity and progression analyses to ascertain how the roadway facilities will operate with the anticipated traffic demands and the proposed roadway improvements. A traffic signal warrant study was also performed at the intersection of Plainfield Road and the proposed access drive.

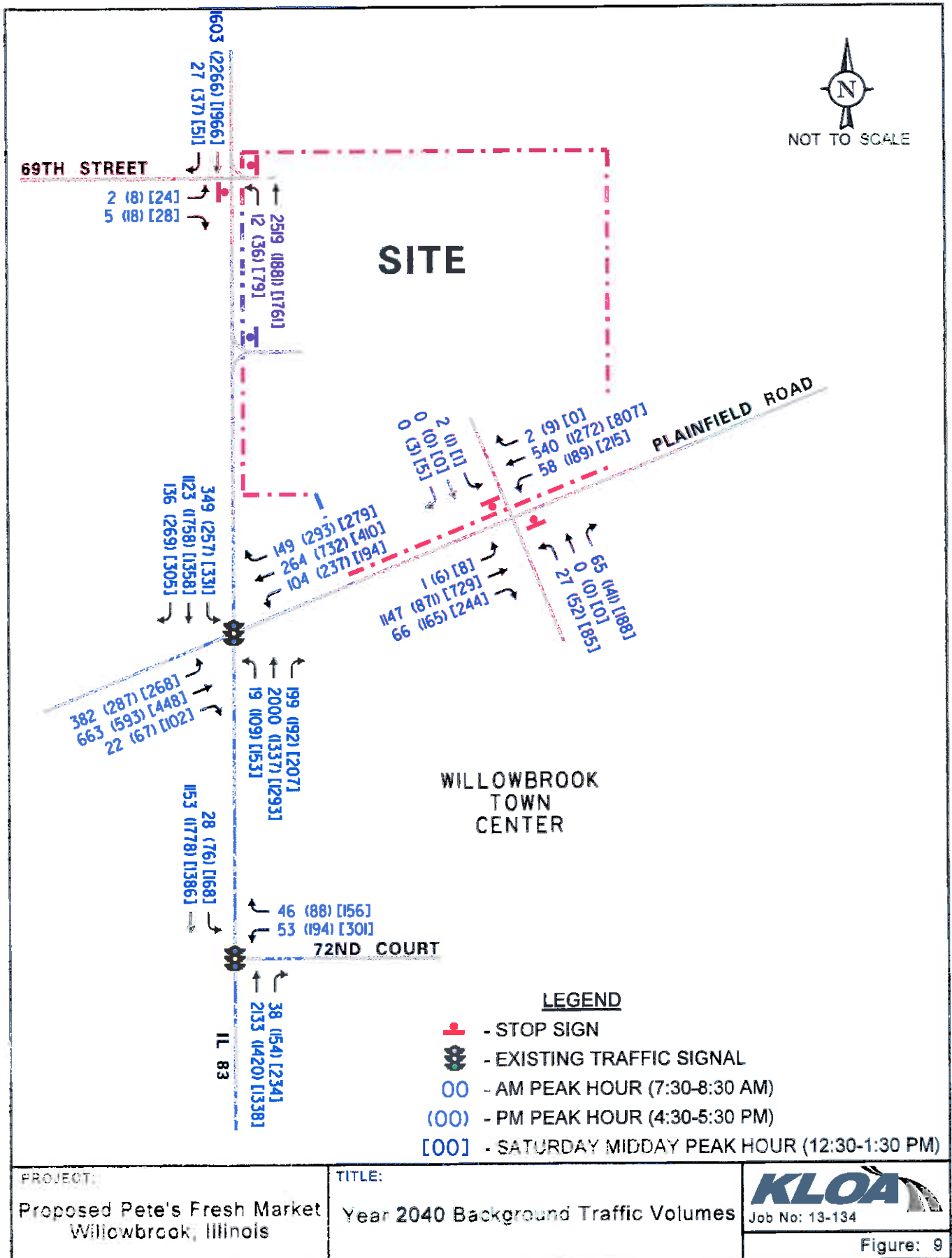
Traffic Analyses

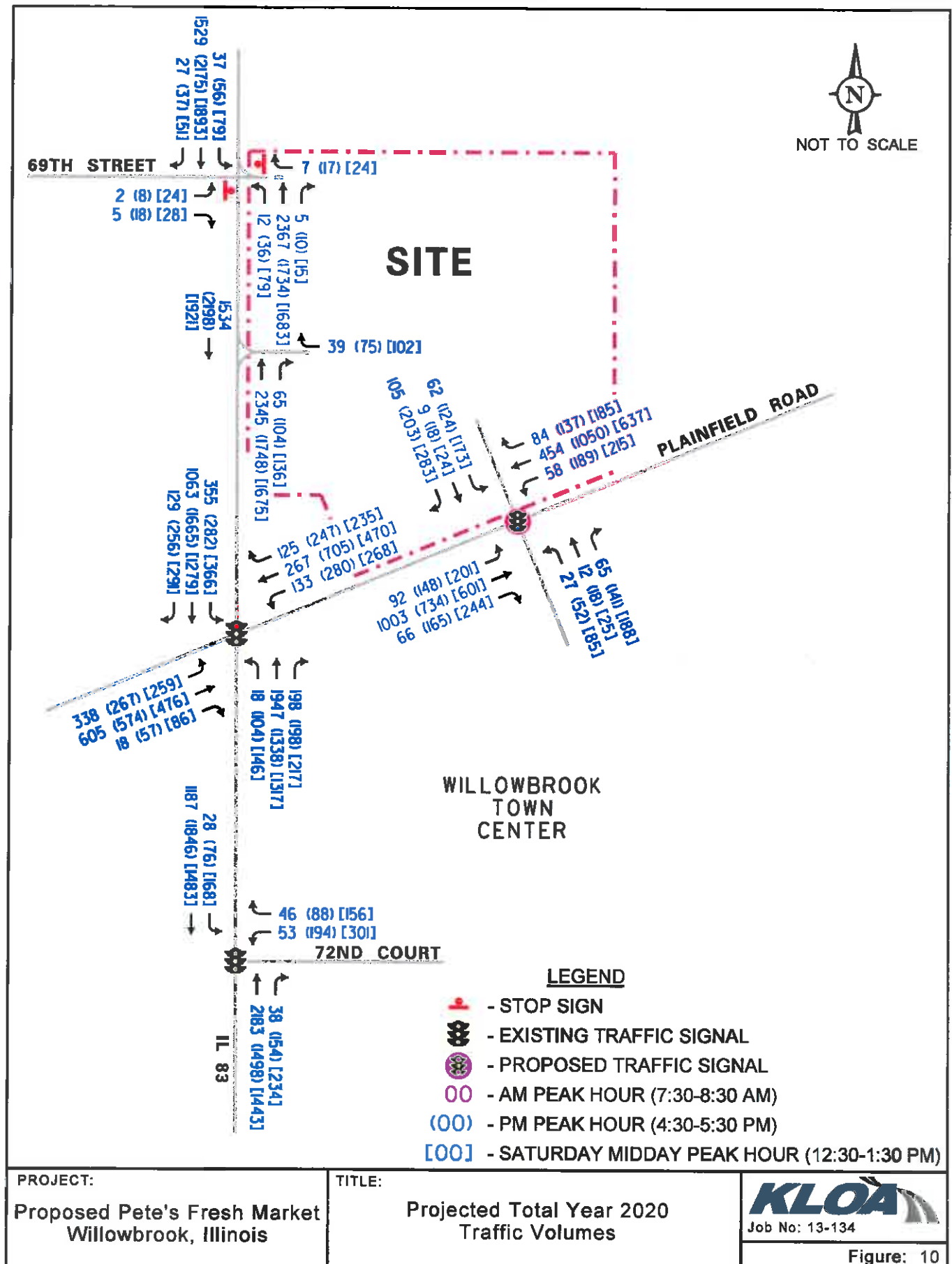
Roadway and adjacent or nearby intersection analyses were performed for the weekday morning, weekday evening, and Saturday midday peak hours for the existing, Year 2020 and 2040 background traffic (No Build) and projected total year 2020 and 2040 traffic volumes. The traffic analyses were performed using the Synchro/SimTraffic 9 capacity analysis software. The signalized intersections were generally analyzed using the existing signal cycle lengths, timings, phasings, and offsets with some minor adjustments to accommodate the proposed roadway improvements.

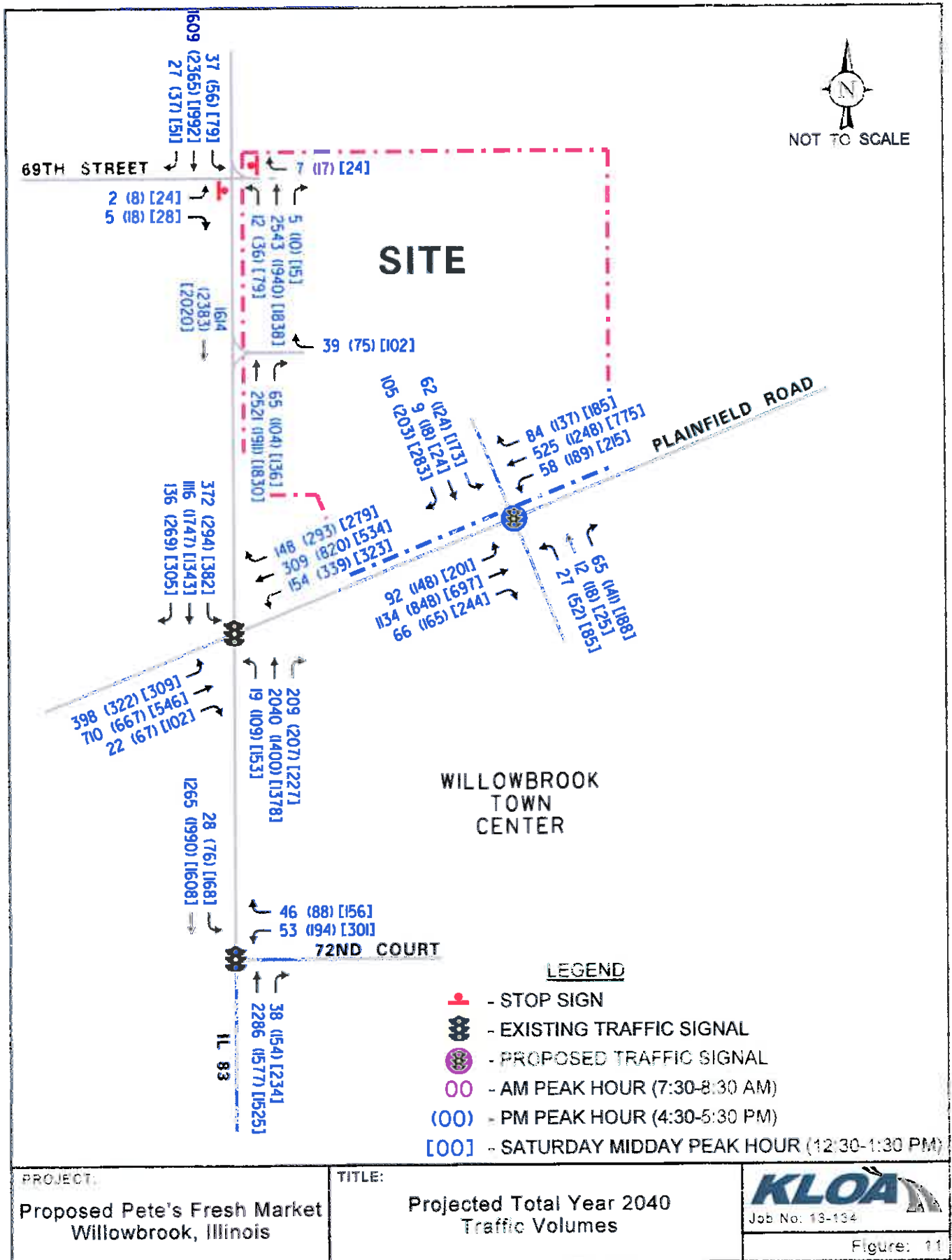












The ability of an intersection to accommodate traffic flow is expressed in terms of level of service, which is assigned a letter grade from A to F based on the average control delay experienced by vehicles passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Level of Service A is the highest grade (best traffic flow and least delay), Level of Service E represents saturated or at-capacity conditions, and Level of Service F is the lowest grade (oversaturated conditions, extensive delays). The *Highway Capacity Manual* definitions for levels of service and the corresponding control delay for both signalized and unsignalized intersections are provided in the Appendix.

The results of the capacity analyses, expressed in terms of level of service and delays, are shown in **Tables 2** through **6** for each of the studied scenarios. In addition, the projected queues along the various movements was calculated based on the red time formula and are included in the Appendix.

Table 2

CAPACITY ANALYSIS RESULTS - EXISTING VOLUMES

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
IL 83/Plainfield Road ¹	E	68.5	D	50.6	D	38.1
IL 83/72 nd Court ¹	A	8.1	B	13.0	C	21.8
Il 83/69 th Street ²	C	21.3	E	42.7	E	43.6
Plainfield Road/ Willowbrook Town Center Access Drive ²						
• North Leg	D	26.1	E	40.0	D	26.2
• South Leg	C	20.4	F	52.2	F	96.7

¹Signalized Intersection

²Unsignalized Intersection

LOS - Level of Service

Delay - Measured in seconds.

Table 3

CAPACITY ANALYSIS RESULTS – YEAR 2020 BACKGROUND VOLUMES
AND EXISTING CONDITIONS TRAFFIC (NO BUILD)

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
IL 83/Plainfield Road ¹	E	73.5	D	53.4	D	38.2
IL 83/72 nd Court ¹	A	8.1	B	13.0	C	21.8
IL 83/69 th Street ²	C	21.8	E	44.6	E	45.8
Plainfield Road/ Willowbrook Town Center Access Drive ²						
• North Leg	D	28.1	E	45.9	D	28.9
• South Leg	C	22.4	F	64.9	F	118.8

¹Signalized Intersection
²Unsignalized Intersection
LOS - Level of Service
Delay - Measured in seconds.

Table 4

CAPACITY ANALYSIS RESULTS – YEAR 2040 BACKGROUND VOLUMES
AND EXISTING CONDITIONS TRAFFIC (NO BUILD)

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
IL 83/Plainfield Road ¹	F	98.2	E	74.3	D	44.4
IL 83/72 nd Court ¹	A	8.1	B	13.0	C	21.8
IL 83/69 th Street ²	C	23.2	F	51.0	F	53.1
Plainfield Road/ Willowbrook Town Center Access Drive ²						
• North Leg	E	37.6	F	73.4	D	34.7
• South Leg	D	33.4	F	131.3	F	169.5

¹Signalized Intersection
²Unsignalized Intersection
LOS - Level of Service
Delay - Measured in seconds.

Table 5

CAPACITY ANALYSIS RESULTS -YEAR 2020 TOTAL TRAFFIC VOLUMES

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
IL 83/Plainfield Road ¹	E	65.9	E	66.5	D	51.1
IL 83/72 nd Court ¹	A	8.4	B	12.7	C	22.3
IL 83/69 th Street/Right-In/Right-Out/Left-in Access Drive ²						
• East Leg	B	12.0	B	10.8	B	10.4
• West Leg	D	28.8	F	77.0	F	>80
IL 83/Right-In/Right-Out Access Drive ²	B	11.3	A	9.9	B	10.1
Plainfield Road with Willowbrook Town Center Access Drive/Development Access Drive ¹	B	13.3	C	22.2	C	30.8
¹ Signalized Intersection						
² Unsignalized Intersection						
LOS - Level of Service						
Delay - Measured in seconds.						

Table 6

CAPACITY ANALYSIS RESULTS -YEAR 2040 TOTAL TRAFFIC VOLUMES

Intersection	Weekday Morning Peak Hour		Weekday Evening Peak Hour		Saturday Midday Peak Hour	
	LOS	Delay	LOS	Delay	LOS	Delay
IL 83/Plainfield Road ¹	F	85.2	F	95.2	E	65.1
IL 83/72 nd Court ¹	A	8.5	B	12.9	C	22.5
IL 83/69 th Street/Right-In/Right-Out/Left-in Access Drive ²						
• East Leg	B	11.9	B	11.4	B	10.7
• West Leg	E	35.4	F	>80	F	>80
IL 83/Right-In/Right-Out Access Drive ²	B	11.9	B	10.0	B	10.2
Plainfield Road with Willowbrook Town Center Access Drive/Development Access Drive ¹	B	13.3	C	22.8	C	30.8
¹ Signalized Intersection						
² Unsignalized Intersection						
LOS - Level of Service						
Delay - Measured in seconds.						

Discussion and Recommendations

The following summarizes how the intersections are projected to operate and identify any roadway and traffic control improvements necessary to accommodate the development traffic.

IL 83 and Plainfield Road

Existing Conditions. This intersection currently operates at an overall Level of Service E during the weekday morning peak hour and Level of Service D during the weekday evening and Saturday midday peak hours. However, the capacity analyses and field observations show that the following movements experience long delays and queues during the peak hours.

- The through movements on IL 83, particularly the southbound through movement during the weekday evening peak hour.
- The southwest bound through movement on Plainfield Road, particularly during the weekday evening peak hour.
- The northeast bound-to-northbound left-turn movement, particularly during the weekday morning peak hour.

Background Year 2020 and 2040 (No Build) Conditions. Under the Year 2020 Background condition, the intersection will continue operating at the same levels of service as under existing conditions with some minor increases in the overall delay. Under the Year 2040 Background condition the level of service during the morning and evening peak hours deteriorate to F and E, respectively. It is important to note that Plainfield Road left-turn movements will continue to operate with a single left-turn lane on both protected and permitted phases. The capacity analyses shows that the left-turn lanes are projected to operate at a poor level of service with long delays and queues.

Projected Total Year 2020 and 2040 Conditions. As part of the development, this intersection is proposed to be improved as follows.

- Dual left-turn lanes are to be provided on both approaches of Plainfield Road.
- In addition to the dual left-turn lanes and the two-through lanes, an exclusive right-turn lane will also be provided on the southwest bound approach of Plainfield Road. To maximize the storage along this approach, the right-turn lane and taper will extend to the development access drive.
- The third northbound through lane on IL 83 that currently terminates as a right-turn lane at its intersection with Plainfield Road will be extended to the north end of the site and will terminate as a right-turn lane serving the northern access drive.

Given the provision of the dual left-turn lanes, the left-turn movements at the intersection will only be permitted to operate under a protected phase.

Assuming the projected total year 2020 traffic volumes and the proposed roadway improvements, the intersection is projected to operate at a Level of Service E during the weekday morning and evening peak hour and a Level of Service D during the Saturday midday peak hour. It should be noted that the northbound through lanes are projected to operate at a good level of service (Level of Service C) without a separate northbound-to-eastbound right-turn lane. Further, the queuing analyses (red-time formula queue calculations are included in the Appendix) and the simulation runs show that the proposed traffic signal at the Plainfield Road/development access drive/Willowbrook Town Center access drive intersection can be timed so that the queues along the southwest approach of Plainfield Road will generally not extend through the Plainfield Road/development access drive/Willowbrook Town Center access drive intersection. It is important to note that the analyses were performed based on the existing green time splits provided to IL 83 and Plainfield Road.

If the projected total year 2040 traffic volumes are realized, the intersection is projected to operate at a Level of Service E/F during all of the peak periods. Although the intersection is projected to operate below acceptable levels of service, a review of the simulation runs show that the southwest bound traffic on Plainfield Road will not back up to the proposed signalized intersection of Plainfield Road with the Willowbrook Town Center/development access drive except during the weekday evening peak hour. If the projected year 2040 traffic volumes are realized, the simulation runs show that a few additional seconds of green time may be required for the Plainfield Road through movement during the weekday evening peak hour to ensure the southwest bound queue does not extend through the development access drive/Willowbrook Town Center access drive. In addition to the development-generated traffic, it is important to note that the year 2040 traffic volumes assume 27 percent growth in traffic along Plainfield Road and 6.75 percent growth in traffic along IL 83. As such, the poor operation projected at this intersection assuming the year 2040 traffic volumes is due in part to the significant projected growth in the area. Further, the roadway improvements proposed as part of the development will mitigate some of the existing capacity constraints at the intersection and enhance the intersection's operation. Finally, the northbound through lanes are projected to operate at a good level of service (Level of Service C and D) without a separate northbound-to-eastbound right-turn

Plainfield Road and Willowbrook Town Center/Access Drive

Existing Conditions. This intersection is currently under two-way stop sign control. Based on the results of the capacity analyses, the Willowbrook Town Center access drive left-turn movement operates at a Level of Service F during the weekday evening and Saturday midday peak hours. This is due to the high volume of through traffic along Plainfield Road and the limited number of gaps in the traffic stream.

Background Year 2020 and 2040 (No Build) Conditions. Assuming the existing stop sign control, the Willowbrook Town Center access drive left-turn movement is projected to continue to operate at a Level of Service F with long delays and queues.

Projected Year 2020 and 2040 Conditions. As part of the development, this intersection is proposed to be improved as follows.

- A traffic signal will be installed at this intersection. A traffic signal warrant study presented later in the report, shows that a traffic signal is warranted based on the existing traffic volumes.
- An exclusive right-turn lane will be provided on the southwest bound approach of Plainfield Road serving the access drive.

Assuming the projected total year 2020 and 2040 traffic volumes and the proposed roadway improvements, this intersection is projected to operate at a Level of Service C or better during the peak hours. Further, the queuing analyses and simulation runs have shown that the left-turn lanes along Plainfield Road are sufficient to accommodate the maximum queues. Furthermore, the northeast bound and southwest bound queues at this intersection will not extend to IL 83 or Madison Street, respectively. Lastly the provision of a traffic signal at this location will ensure that traffic from both the Willowbrook Town Center access drive and the development access drive will be able to enter and exit the developments in an efficient manner. Per the request of DuDOT, the proposed traffic signal will be interconnected to the existing traffic signals at intersections of Plainfield Road/IL 83 and Plainfield Road/Madison Street.

IL 83 and 72nd Court

Existing Conditions. This intersection currently operates at Level of Service A, B and C during the weekday morning, weekday evening and Saturday midday peak hours, respectively.

Background Year 2020 and 240 (No Build) Conditions. Assuming the background growth in the area, the intersection will continue operating at acceptable levels of service.

Projected Total Year 2020 and 2040 Conditions. Assuming both the projected total year 2020 and 2040 traffic volumes, this intersection will continue operating at acceptable levels of service with minimal increases in the overall delay. As such, no geometric or signal timing improvements are necessary to accommodate future traffic volumes.

IL 83 and Right-In/Right-Out Access Drive

This access drive is proposed to be located just south of the existing right-turn in/right-turn access drive or approximately 530 feet north of Plainfield Road. The access drive will provide two inbound lanes and one outbound lane with the outbound lane channelized and signed to prohibited left-turn movements. The outbound lane will be under stop sign control.

The results of the capacity analysis shows that the movements at this intersection are projected to generally operate at a good level of service with minimal queuing assuming both the projected total year 2020 and 2040 traffic volumes.

IL 83 and Right-In/Left-In/Right-Out access drive

This access drive will be located approximately 250 feet north of the proposed right-in/right-out access drive opposite 69th Street and will be physically restricted to right-in/left-in/right-out movements. This access drive will provide inbound and outbound access for customers and inbound only access to the service drive. The access drive will provide one inbound lane and one outbound lane with the outbound lane under stop sign control. An exclusive southbound left-turn lane will be provided on IL 83 serving the access drive. In addition, the third northbound through lane is proposed to terminate as a right-turn at the northern access drive. Based on the results of the capacity analyses, the right-out movement will operate at a Level of Service B during all three peak hours with queues of less than 25 feet.

The provision of a three quarter access drive at this location will have a positive impact on the area roadways for the following reasons.

- It will allow traffic approaching from the north to enter the development without increasing the traffic at the southbound-to-eastbound left-turn lane on IL 83 at its intersection with Plainfield Road.
- It will reduce the amount of traffic on Plainfield Road and on the northeast-bound-to-northbound left-turn movement on Plainfield Road at its intersection with the development access drive/Willowbrook Town Center access drive thus enhancing the operation of the intersection.

Traffic Signal Warrant Analysis

As part of the traffic signal installation approval process of DuDOT, a traffic signal warrant study was conducted at the intersection of Plainfield Road with the Willowbrook Town Center access drive and proposed development access drive to determine whether traffic signal warrants will be met. Installation of a traffic signal requires that one or more of the nine signal warrants outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD 2009) is met. Because there is limited pedestrian activity in the area and no school is nearby this intersection, only the traffic volume warrants (Warrant 1A, Warrant 1B, Combination Warrant 1A and 1B, Warrant 2 and Warrant 3) were analyzed as part of this study.

Plainfield Road has a posted speed limit of 40 mph and provides two through lane in each direction with exclusive left-turn lanes serving the Willowbrook Town Center access drive and the location of the proposed access drive. The Willowbrook Town Center access drive is located on the south side of Plainfield Road and provides one inbound lane and two outbound lanes striped to provide an exclusive left-turn lane and a shared through/right-turn lane. Primary access to the development is proposed to be provided via an access drive located on the north side of Plainfield Road opposite the Willowbrook Town Center access drive. As proposed, the access drive is to provide two inbound lanes and two outbound lanes striped to provide an exclusive left-turn lane and a shared through/right-turn lane.

The existing traffic volumes at the Plainfield Road/Willowbrook Town Center were determined based on the following traffic counts.

- Weekday morning (7:00 A.M. to 9:00 A.M.) and evening (4:00 P.M. to 6:00 P.M.) peak period traffic counts that were conducted on August 14, 2013.
- Weekday midday (11:00 A.M. to 4:00 P.M.) and evening (6:00 P.M. to 9:00 P.M.) traffic counts that were conducted on December 17, 2013.

Table 7 show the existing hourly traffic counts at the subject intersection. **Table 8** summarizes the traffic signal warrant analysis that includes the existing traffic volume on Plainfield Road (major street), the traffic volume on the Willowbrook Town Center access drive (minor streets) and an analysis on the volume warrants. Per the Illinois Department of Transportation (IDOT) traffic signal warrant guidelines, the right-turn volumes from the Willowbrook Town Center access drive were reduced by 60 percent when determining the total minor roadway approach volumes.

The following summarizes the results of the warrant analysis.

- *Warrant 1B* - The existing traffic volumes at the subject intersection exceed the minimum traffic volumes for Warrant 1B for ten hours and thus meets Warrant 1B.
- *Warrant 2 - Four Hour Volume*. The projected traffic volumes at the subject intersection exceed the minimum traffic volumes for Warrant 2 for eight hours and thus meet Warrant 2.
- *Warrant 3 - Peak Hour Volume*. The projected traffic volumes at the subject intersection exceed the minimum traffic volumes for Warrant 3 for four hours and thus meet Warrant 3.

Therefore, a traffic signal will be warranted based on the existing traffic volumes. Per the direction of DuDOT, the traffic signal should be interconnected to the existing traffic signals at the intersections of Plainfield Road/IL 83 and Plainfield Road/Madison Street.

Table 7

EXISTING TRAFFIC VOLUMES

PLAINFIELD ROAD WITH WILLOWBROOK TOWN CENTER ACCESS DRIVE

Time	Plainfield Road		Access Drive			
	Through Traffic		Inbound		Outbound	
	Eastbound	Westbound	Left	Right	Left	Right
11:00 A.M.	644	713	207	185	66	156
12:00 Noon	709	694	257	245	80	238
1:00 P.M.	771	635	189	183	91	252
2:00 P.M.	732	757	153	193	86	184
3:00 P.M.	743	900	180	225	80	188
4:00 P.M.	684	1,024	188	145	56	138
5:00 P.M.	702	972	172	179	58	143
6:00 P.M.	655	836	222	314	60	172
7:00 P.M.	526	537	142	205	95	144
8:00 P.M.	367	465	91	121	63	150

Table 8

TRAFFIC SIGNAL WARRANT SUMMARY
PLAINFILED ROAD WITH WILLOWBROOK TOWN CENTER ACCESS DRIVE

Time	Plainfield Road Volumes (Major Street)	Reduced Access Drive Volumes (Minor Street)	Warrants		
			Warrant 1A Minimum Vehicular Volume	Warrant 1B Interruption of Continuous Traffic	Warrant 2 Four-Hour Vehicle Volume
11:00 A.M.	1,749	128	No	Yes	Yes
12:00 Noon	1,905	175	No	Yes	Yes
1:00 P.M.	1,778	192	No	Yes	Yes
2:00 P.M.	1,835	160	No	Yes	Yes
3:00 P.M.	2,048	155	No	Yes	Yes
4:00 P.M.	2041	111	No	Yes	No
5:00 P.M.	2025	115	No	Yes	Yes
6:00 P.M.	2,027	129	No	Yes	Yes
7:00 P.M.	1,410	153	No	Yes	Yes
8:00 P.M.	1,044	123	No	Yes	No
Warrant 1A requires a minimum volume of 600 vehicles on the major street and 200 vehicles on the minor street.					
Warrant 1B requires a minimum volume of 900 vehicles on the major street and 100 vehicles on the minor street.					
Combination Warrant 1A and 1B requires a minimum volume of 720 vehicles on the major street and 80 vehicles on the minor street.					
Warrant 2 requires the minor street traffic volume to exceed a threshold value which changes depending on the major street traffic volumes and the number of travel lanes.					
Warrant 3 requires the minor street traffic volume to exceed a threshold value which changes depending on the major street traffic volume and the number of travel lanes.					
Warrant 3 requires the minor street traffic volume to exceed a threshold value which changes depending on the major street traffic volume and the number of travel lanes.					

Conclusion and Recommendations

Based on the proposed development plan and the preceding traffic impact study, the following conclusions and recommendations are made.

- The site of the proposed development is currently occupied by a vacant 114,605 square-foot Kmart store. Access to the parcel is currently provided via (1) a full access drive on Plainfield Road aligned opposite the Willowbrook Town Center access drive, (2) a full access drive on Plainfield Road approximately 410 feet east of IL 83 and (3) a restricted right-turn in/right-turn out access drive on IL 83.
- As proposed, the existing store will be redeveloped with 130,231 square-foot commercial development that will contain a 68,500 square-foot Pete's Fresh Market grocery store, 46,042 square feet of commercial space, 13,549 square feet of restaurant and a 2,140 square-foot coffee/donut store with a drive-through lane.
- Access to the development will be provided via (1) the existing full access drive aligned opposite the Willowbrook Town Center access drive, (2) a proposed right-in/right-out access drive on IL 83 located just south of the existing access drive and (3) a new right-in/left-in/right-out service access drive on IL 83 at the north end of the site opposite 69th Street. The second full access drive on Plainfield Road and the right-turn in/right-turn out access drive on IL 83 currently serving the parcel will be eliminated.
- Exclusive right-turn and left-turn lanes are proposed to be provided on Plainfield Road serving the access drive. In addition, a traffic signal is proposed to be provided at the intersection of Plainfield Road with the development access drive and the Willowbrook Town Center access drive.
- An exclusive left-turn lane and a right-turn lane (termination of third through lane) are proposed to be provided at the IL 83 northern access drive.
- The results of the traffic signal warrant study has shown that the existing traffic volumes at the Plainfield Road/Willowbrook Town Center access drive intersection meet Condition B of Warrant 1, Warrant 2 and Warrant 3. As such, a traffic signal is warranted at the subject intersection under existing conditions. Per the request of DuDOT, the traffic signal should be interconnected with the existing traffic signals at the intersection of Plainfield Road/IL 83 and Plainfield Road/Madison Street.

- As part of the development, the following roadway improvements are proposed to be provided at the intersection of Plainfield Road and IL 83.
 - ❖ Dual left-turn lanes will be provided on both approaches of Plainfield Road.
 - ❖ In addition to the dual left-turn lanes and the two-through lanes, an exclusive right-turn lane will also be provided on the southwest bound approach of Plainfield Road. To maximize the storage along this approach, the right-turn lane and taper will extend to the development access drive.
 - ❖ The third northbound through lane on IL 83 that currently terminates as a right-turn lane at its intersection with Plainfield Road will be extended to the north end of the site and will terminate as an exclusive right-turn lane at the northern access drive.
 - ❖ The traffic signal will be modified to accommodate the proposed roadway improvements.
- Except for the Plainfield Road/IL 83 intersection, all of the other intersections are projected to generally operate at an acceptable level of service assuming the projected total year 2020 and 2040 traffic volumes. The intersection of Plainfield Road/IL 83 currently operates at a poor level of service is projected to continue to operate at a poor level of service assuming the year 2020 and 2040 traffic volumes. However, it is important to note that the poor level of service projected at this intersection is due in large part to the significant ambient growth in traffic assumed in the traffic study. Further, the roadway improvements proposed as part of the development will mitigate some of the existing capacity constraints at the intersection and enhance the intersection's operation.
- The capacity analyses and simulation runs show that the proposed traffic signal at the development access drive/Willowbrook access drive can be properly coordinated (timed) so to limit the impact on the existing progression of traffic along Plainfield Road. Further, the traffic signals can be timed so that the queues from the study intersections will generally not extend through the downstream intersections.

Appendix

LEVEL OF SERVICE CRITERIA

Signalized Intersections

Level of Service	Interpretation	Average Control Delay (seconds per vehicle)
A	Favorable progression. Most vehicles arrive during the green indication and travel through the intersection without stopping.	≤10
B	Good progression, with more vehicles stopping than for Level of Service A.	>10 - 20
C	Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear. Number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	>20 - 35
D	The volume-to-capacity ratio is high and either progression is ineffective or the cycle length is too long. Many vehicles stop and individual cycle failures are noticeable.	>35 - 55
E	Progression is unfavorable. The volume-to-capacity ratio is high and the cycle length is long. Individual cycle failures are frequent.	>55 - 80
F	The volume-to-capacity ratio is very high, progression is very poor and the cycle length is long. Most cycles fail to clear the queue.	>80.0

Unsignalized Intersections

Level of Service	Average Total Delay (SEC/VEH)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Source: *Highway Capacity Manual*, 2010.

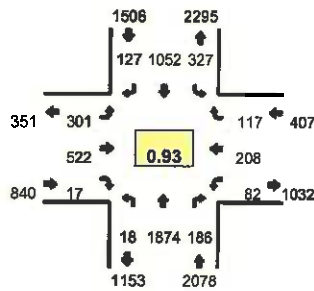
Traffic Count Data

Type of peak hour being reported: Intersection Peak

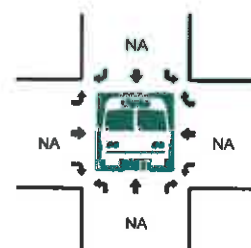
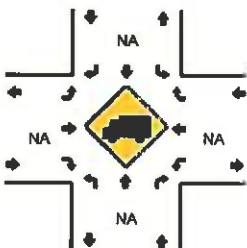
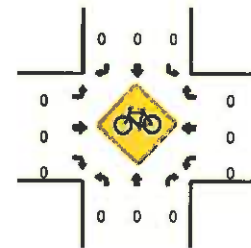
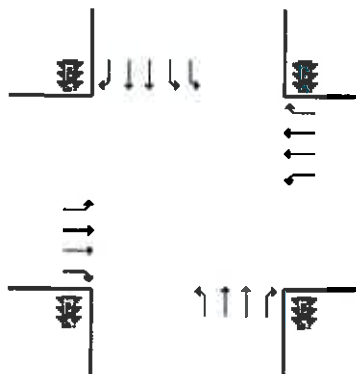
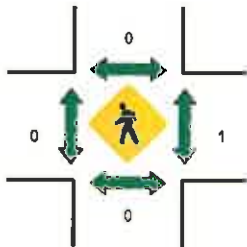
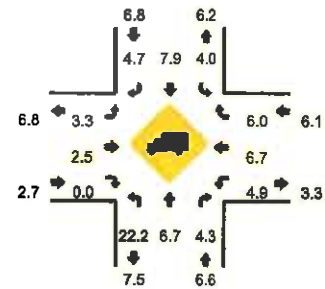
Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) – Plainfield Rd
CITY/STATE: Willowbrook, IL

QC JOB #: 11205607
DATE: Wed, Aug 14 2013



Peak-Hour: 7:30 AM – 8:30 AM
Peak 15-Min: 7:45 AM – 8:00 AM



15-Min Count Period Beginning At	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				Plainfield Rd (Eastbound)				Plainfield Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	559	30	0	42	233	22	0	93	96	8	0	13	22	15	0	1137	
7:15 AM	6	474	35	0	53	233	27	1	96	124	10	0	19	32	25	0	1136	
7:30 AM	3	509	36	0	75	257	39	0	31	135	2	0	20	49	24	0	1232	
7:45 AM	3	470	60	0	95	274	32	1	82	185	5	0	22	55	31	0	1292	1796
8:00 AM	6	448	30	0	80	359	25	1	72	121	4	0	13	48	27	0	1143	4802
8:15 AM	4	147	49	2	74	262	31	1	36	104	6	0	27	56	35	0	1164	1831
8:30 AM	4	382	44	0	63	238	33	1	76	115	12	0	24	49	38	0	1079	4678
8:45 AM	11	428	54	1	69	252	35	0	56	96	10	0	18	49	32	0	1111	4497
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	12	1880	240	0	380	1096	128	4	328	648	20	0	88	220	124	0	5168	
Heavy Trucks	4	116	8		16	64	8		24	12	0		0	20	12		284	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

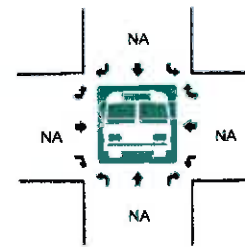
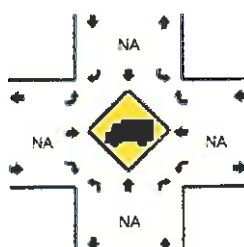
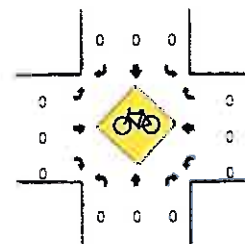
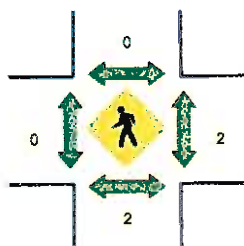
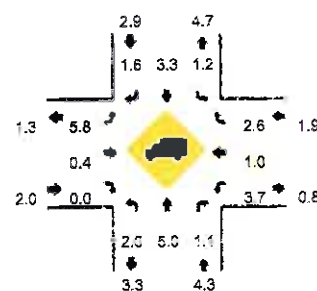
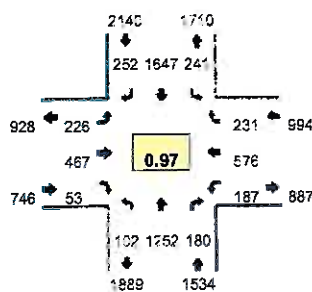
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) -- Plainfield Rd
CITY/STATE: Willowbrook, IL

QC JOB #: 11205608
DATE: Wed, Aug 14 2013

Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM



15-Min Count Period	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				Plainfield Rd (Eastbound)				Plainfield Rd (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	20	276	52	3	61	402	71	2	62	108	4	0	52	126	65	0	1304	
4:15 PM	21	249	38	0	53	385	57	0	56	133	16	0	55	174	59	0	1276	
4:30 PM	25	287	42	1	66	411	60	0	46	108	8	0	52	129	72	0	1307	
4:45 PM	26	303	39	1	39	414	66	0	67	114	15	0	42	142	57	0	1324	5211
5:00 PM	24	336	48	0	82	432	64	0	59	106	13	0	47	128	59	0	1355	5292
5:15 PM	26	326	51	0	53	390	72	1	60	137	17	0	46	176	43	0	1398	5414
5:30 PM	35	304	49	2	39	364	48	0	53	88	8	0	39	126	64	0	1219	5326
5:45 PM	19	255	44	0	38	380	69	0	52	122	12	0	57	147	53	0	1248	5260

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	104	1304	204	0	212	1560	288	4	240	548	68	0	184	704	172	0	5592
Heavy Trucks	0	44	0		0	40	4		4	0	0		0	8	0		100
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 8/20/2013 10:11 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

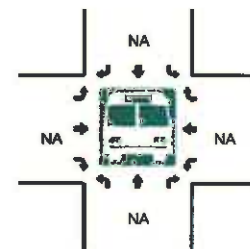
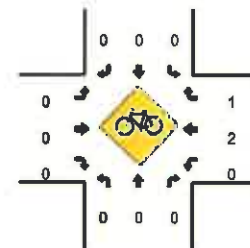
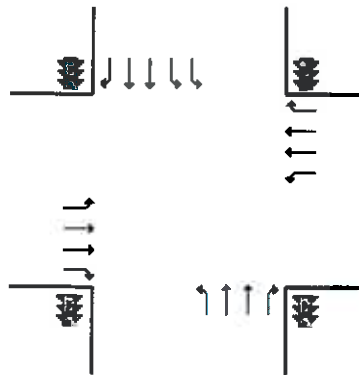
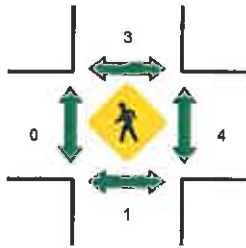
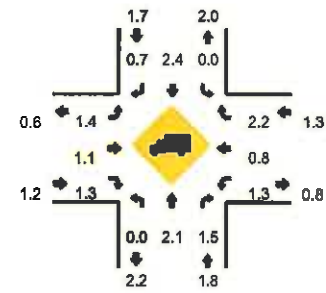
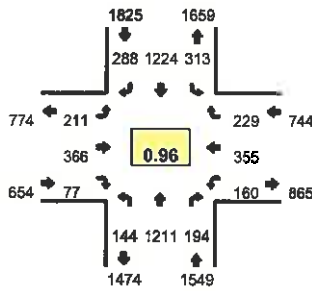
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) -- Plainfield Rd
CITY/STATE: Willowbrook, IL

QC JOB #: 11205609
DATE: Sat, Aug 10 2013

Peak-Hour: 12:15 PM -- 1:15 PM
Peak 15-Min: 12:30 PM -- 12:45 PM



15-Min Count Period	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				Plainfield Rd (Eastbound)				Plainfield Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	29	276	58	0	80	262	59	2	52	95	22	0	55	88	53	0	1131	
12:15 PM	31	281	45	5	69	277	66	3	56	109	21	0	51	105	65	0	1184	
12:30 PM	40	293	41	0	87	348	81	2	59	103	18	0	36	85	45	0	1239	
12:45 PM	29	348	57	6	79	299	68	1	46	90	16	0	39	79	64	0	1211	4765
1:00 PM	31	289	18	2	70	300	73	2	50	74	22	0	34	86	57	0	1138	4772
1:15 PM	33	281	45	2	68	325	64	1	56	96	24	0	44	73	56	0	1168	4756
1:30 PM	44	273	75	0	70	304	70	1	63	119	17	0	31	88	48	0	1203	4720
1:45 PM	35	273	40	0	73	289	60	3	58	90	17	0	37	85	53	0	1113	4622
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	160	1172	176	0	348	1392	324	8	236	412	72	0	144	340	172	0	4956	
Heavy Trucks	0	28	4	0	0	40	4	0	0	16	0	0	0	4	4	0	100	
Pedestrians	0	0	0	0	0	8	0	0	0	0	0	0	0	8	0	0	16	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Stopped Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Comments:

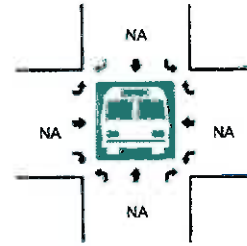
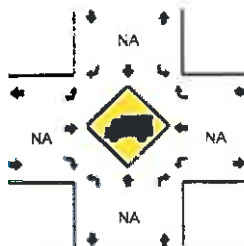
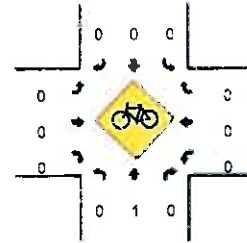
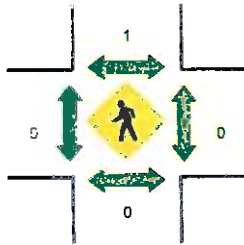
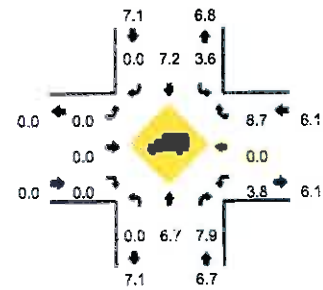
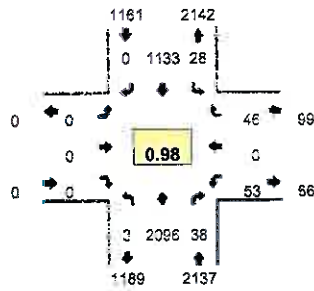
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) – 72nd Ct
CITY/STATE: Willowbrook, IL

QC JOB #: 11205604
DATE: Wed, Aug 14 2013

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:30 AM -- 7:45 AM



15-Min Count Period	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				72nd Ct (Eastbound)				72nd Ct (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	570	9	0	6	234	0	0	0	0	0	0	4	0	11	0	834	
7:15 AM	0	621	2	0	5	266	0	0	0	0	0	0	21	0	11	0	826	
7:30 AM	0	569	6	0	7	266	0	0	0	0	0	0	14	0	12	0	864	
7:45 AM	0	513	13	0	9	299	0	0	0	0	0	0	17	0	10	0	861	3385
8:00 AM	0	521	11	1	6	275	0	0	0	0	0	0	12	0	11	0	837	3388
8:15 AM	0	503	8	2	5	293	0	0	0	0	0	0	10	0	13	0	835	3397
8:30 AM	0	409	9	0	12	255	0	0	0	0	0	0	19	0	11	0	715	3248
8:45 AM	0	486	12	0	5	275	0	0	0	0	0	0	6	0	8	0	795	3182
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	0	2236	24	0	28	1064	0	0	0	0	0	0	56	0	48	0	3456	
Heavy Trucks	0	120	4		0	56	0		0	0	0		0	0	4		184	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

Report generated on 8/20/2013 10:11 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

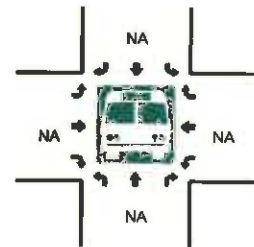
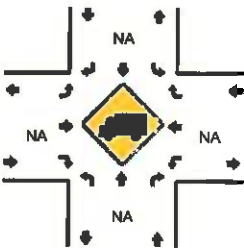
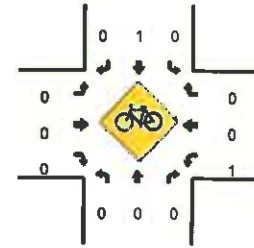
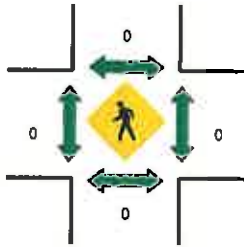
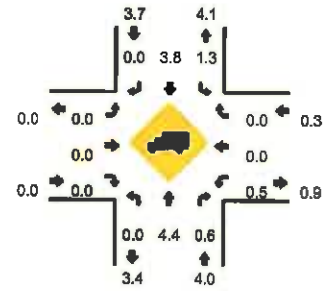
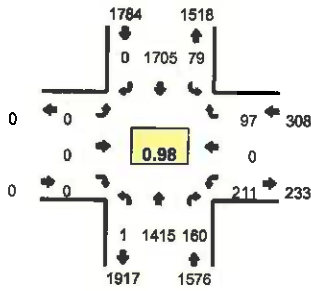
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) – 72nd Ct
CITY/STATE: Willowbrook, IL

QC JOB #: 11205605**DATE:** Wed, Aug 14 2013

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM



15-Min Count Period Beginning At	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				72nd Ct (Eastbound)				72nd Ct (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	337	24	0	19	455	0	1	0	0	0	0	46	0	19	0	901	
4:15 PM	0	289	21	0	16	426	0	0	0	0	0	0	44	0	22	0	818	
4:30 PM	0	305	38	1	14	436	0	0	0	0	0	0	46	0	17	0	857	
4:45 PM	0	352	39	0	28	447	0	0	0	0	0	0	50	0	24	0	840	3516
5:00 PM	0	334	40	0	18	444	0	2	0	0	0	0	55	0	26	0	919	3534
5:15 PM	0	405	37	0	14	420	0	0	0	0	0	0	43	0	21	0	940	3656
5:30 PM	0	324	44	1	13	394	0	4	0	0	0	0	63	0	28	0	869	3668
5:45 PM	0	309	40	0	24	437	0	0	0	0	0	0	55	0	16	0	881	3608
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	0	1408	156	0	112	1788	0	0	0	0	0	0	200	0	96	0	3760	
Heavy Trucks	0	100	0	0	4	56	0	0	0	0	0	0	0	0	0	0	160	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2	
Railroad																		
Stopped Buses																		

Comments:

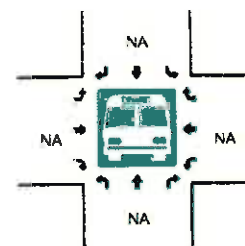
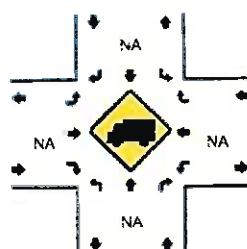
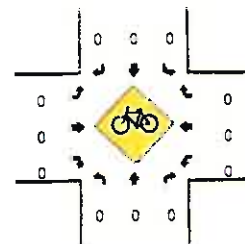
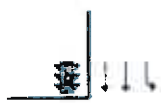
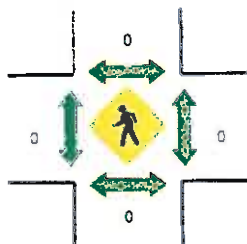
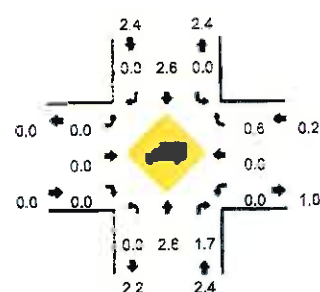
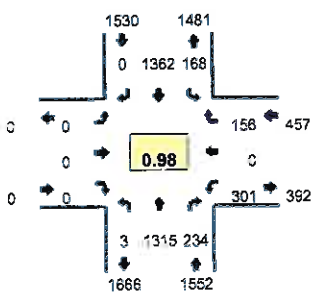
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: IL 83 (Kingery Hwy) -- 72nd Ct
CITY/STATE: Willowbrook, IL

QC JOB #: 11205606
DATE: Sat, Aug 10 2013

Peak-Hour: 12:30 PM -- 1:30 PM
Peak 15-Min: 12:45 PM -- 1:00 PM



15-Min Count Period	IL 83 (Kingery Hwy) (Northbound)				IL 83 (Kingery Hwy) (Southbound)				72nd Ct (Eastbound)				72nd Ct (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	0	326	50	0	36	306	0	2	0	0	0	0	52	0	43	0	815	
12:15 PM	0	293	48	1	36	321	0	3	0	0	0	0	62	0	45	0	809	
12:30 PM	0	356	56	0	40	323	0	2	0	0	0	0	70	0	35	0	885	
12:45 PM	0	330	60	0	49	343	0	1	0	0	0	0	86	0	34	0	903	3412
1:00 PM	0	319	60	2	27	333	0	2	0	0	0	0	81	0	53	0	877	3474
1:15 PM	0	310	58	1	39	363	0	5	0	0	0	0	84	0	34	0	874	3539
1:30 PM	0	328	46	2	35	344	0	0	0	0	0	0	58	0	39	0	852	3506
1:45 PM	0	288	47	0	30	304	0	2	0	0	0	0	77	0	41	0	789	3392
Peak 15-Min Flowrates	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Total	
All Vehicles	0	1320	240	0	196	1372	0	4	0	0	0	0	344	0	136	0	3612	
Heavy Trucks	0	12	4		0	28	0		0	0	0		0	0	0		44	
Pedestrians	0	0			0	0			0	0			0	0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

Comments:

Report generated on 8/20/2013 10:11 AM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

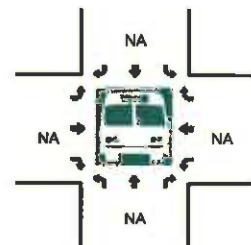
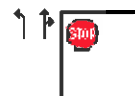
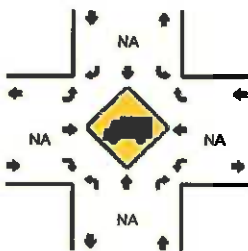
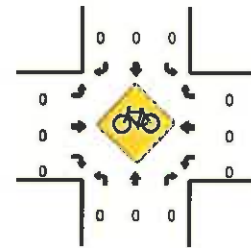
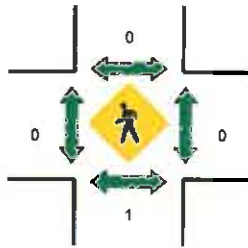
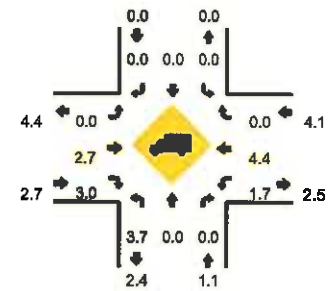
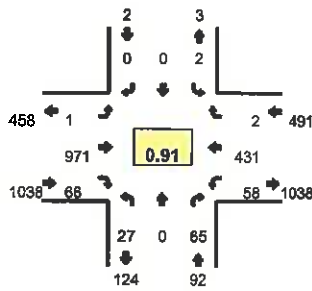
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willowbrook Shopping Ent -- Plainfield Rd
CITY/STATE: Willowbrook, IL

QC JOB #: 11205601
DATE: Wed, Aug 14 2013

Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

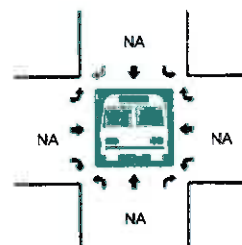
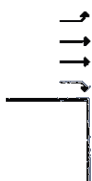
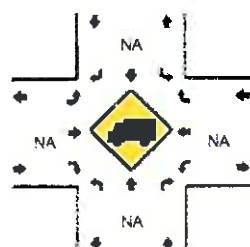
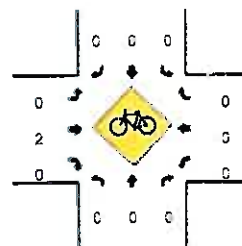
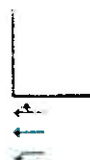
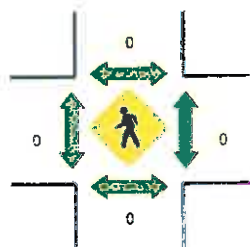
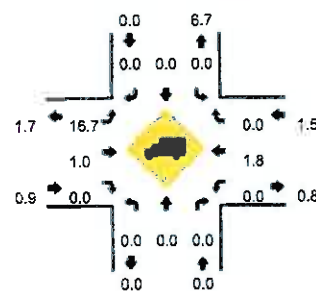


15-Min Count Period Beginning At	Willowbrook Shopping Ent (Northbound)				Willowbrook Shopping Ent (Southbound)				Plainfield Rd (Eastbound)				Plainfield Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	5	0	10	0	0	0	0	0	0	160	8	0	5	59	0	0	247	
7:15 AM	5	0	9	0	2	0	0	0	0	180	9	0	8	75	0	0	288	
7:30 AM	5	0	15	0	0	0	0	0	0	243	20	0	18	109	0	0	410	
7:45 AM	7	0	23	0	0	0	0	0	0	276	17	0	18	103	0	0	444	1389
8:00 AM	7	0	14	0	2	0	0	0	1	244	15	0	8	97	1	0	389	1531
8:15 AM	8	0	13	0	0	0	0	0	0	208	14	0	14	122	1	0	380	1623
8:30 AM	7	0	13	0	0	0	0	0	1	194	21	0	15	105	1	0	357	1570
8:45 AM	5	0	16	0	0	0	0	0	0	197	24	0	20	110	0	0	372	1498
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	28	0	92	0	0	0	0	0	0	1104	68	0	72	412	0	0	1776	
Heavy Trucks	0	0	0	0	0	0	0	0	0	36	0	0	4	16	0	0	56	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

Method for determining peak hour: Total Entering Volume

QC JOB #: 11205602
DATE: Wed, Aug 14 2013

[illegible]

Comments:

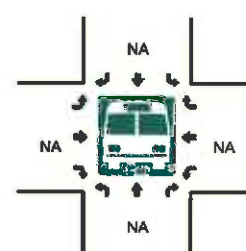
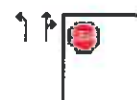
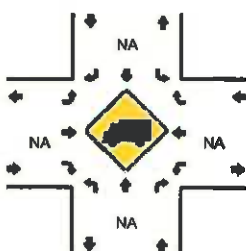
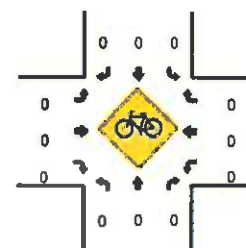
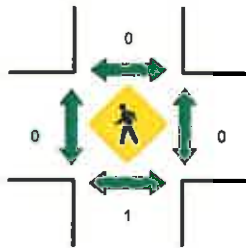
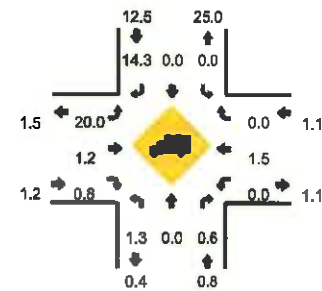
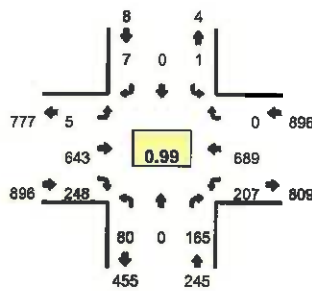
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Willowbrook Shopping Ent -- Plainfield Rd
CITY/STATE: Willowbrook, IL

QC JOB #: 11205603
DATE: Sat, Aug 10 2013

Peak-Hour: 12:00 PM -- 1:00 PM
Peak 15-Min: 12:45 PM -- 1:00 PM



15-Min Count Period	Willowbrook Shopping Ent (Northbound)				Willowbrook Shopping Ent (Southbound)				Plainfield Rd (Eastbound)				Plainfield Rd (Westbound)				Total	Hourly Totals
Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 PM	18	0	36	0	0	0	1	0	0	179	51	0	57	172	0	0	514	
12:15 PM	26	0	37	0	1	0	2	0	1	155	55	1	42	193	0	0	513	
12:30 PM	15	0	31	0	0	0	1	0	2	162	68	0	51	161	0	0	501	
12:45 PM	21	0	51	0	0	0	3	0	1	147	74	0	57	163	0	0	517	2045
1:00 PM	20	0	42	0	0	0	0	0	1	140	53	0	54	152	0	0	462	1993
1:15 PM	29	0	54	0	1	0	1	0	3	151	49	1	53	144	0	0	486	1966
1:30 PM	26	0	37	0	1	0	0	0	0	189	57	0	46	131	2	0	489	1954
1:45 PM	25	0	43	0	0	0	1	0	2	161	40	0	37	152	0	0	461	1898
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	84	0	204	0	0	0	12	0	4	588	296	0	228	652	0	0	2068	
Heavy Trucks	0	0	4	0	0	0	0	0	0	0	0	0	0	8	0	0	12	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

Comments:

Willowbrook, IL
IL Route 83 and 69th St
Tuesday March 10, 2015

Weather: Cool and Dry

03/11/15
06:38:51

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: by Movement

Intersection # 2 83/69/tues													
Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
700	20	0	0	0	0	0	0	0	3	6	0	3	32
715	26	0	0	0	0	0	0	0	9	6	0	3	44
730	27	0	0	0	0	0	0	0	12	5	0	2	46
745	26	0	0	0	0	0	0	0	14	3	0	4	47
800	26	0	0	0	0	0	0	0	23	4	0	5	58
815	20	0	0	0	0	0	0	0	17	3	0	4	44*
830	13	0	0	0	0	0	0	0	13	3	0	4	33*
845	8	0	0	0	0	0	0	0	10	2	0	2	22*
1600	36	0	0	0	0	0	0	0	24	18	0	5	83
1615	36	0	0	0	0	0	0	0	26	19	0	7	88
1630	37	0	0	0	0	0	0	0	36	18	0	8	99
1645	34	0	0	0	0	0	0	0	35	21	0	9	99
1700	39	0	0	0	0	0	0	0	43	21	0	11	114
1715	30	0	0	0	0	0	0	0	35	17	0	9	91*
1730	20	0	0	0	0	0	0	0	19	11	0	5	55*
1745	14	0	0	0	0	0	0	0	14	4	0	3	35*

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: Appr/Exit Totals

Intersection # 2 83/69/tues									
Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
700	20	0	3	9	3	0	6	23	32
715	26	0	9	9	3	0	6	35	44
730	27	0	12	7	2	0	5	39	46
745	26	0	14	7	4	0	3	40	47
800	26	0	23	9	5	0	4	49	58
815	20	0	17	7	4	0	3	37	44*
830	13	0	13	7	4	0	3	26	33*
845	8	0	10	4	2	0	2	18	22*
1600	36	0	24	23	5	0	18	60	83
1615	36	0	26	26	7	0	19	62	88
1630	37	0	36	26	8	0	18	73	99
1645	34	0	35	30	9	0	21	69	99
1700	39	0	43	32	11	0	21	82	114
1715	30	0	35	26	9	0	17	65	91*
1730	20	0	19	16	5	0	11	39	55*
1745	14	0	14	7	3	0	4	28	35*

Willowbrook, IL
IL Route 83 and 69th St
Saturday March 7, 2015

Weather: Cool and Sunny

03/08/15
13:16:28

URNS/TEAPAC[Ver 3.61.12] - 15-Minute Flow Rates: Appr/Exit Totals

Intersection # 1 83/69/sat									
Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
1200	52	0	60	32	16	0	16	112	144
1215	44	0	48	28	24	0	4	92	120
1230	60	0	68	44	24	0	20	128	172
1245	52	0	80	64	28	0	36	132	196
1300	44	0	76	56	28	0	28	120	176
1315	48	0	92	44	16	0	28	140	184
1330	40	0	76	32	12	0	20	116	148
1345	52	0	60	56	28	0	28	112	168

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: by Movement

Intersection # 1 83/69/sat													
Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
1200	52	0	0	0	0	0	0	0	64	19	0	23	158
1215	50	0	0	0	0	0	0	0	68	22	0	26	166
1230	51	0	0	0	0	0	0	0	79	28	0	24	182
1245	46	0	0	0	0	0	0	0	81	28	0	21	176
1300	46	0	0	0	0	0	0	0	76	26	0	21	169
1315	35	0	0	0	0	0	0	0	57	19	0	14	125*
1330	23	0	0	0	0	0	0	0	34	12	0	10	79*
1345	13	0	0	0	0	0	0	0	15	7	0	7	42*

URNS/TEAPAC[Ver 3.61.12] - 60-Minute Volumes: Appr/Exit Totals

Intersection # 1 83/69/sat									
Begin Time	Approach Totals				Exit Totals				Int Total
	N	E	S	W	N	E	S	W	
1200	52	0	64	42	23	0	19	116	158
1215	50	0	68	48	26	0	22	118	166
1230	51	0	79	52	24	0	28	130	182
1245	46	0	81	49	21	0	28	127	176
1300	46	0	76	47	21	0	26	122	169
1315	35	0	57	33	14	0	19	92	125*
1330	23	0	34	22	10	0	12	57	79*
1345	13	0	15	14	7	0	7	28	42*

Willowbrook, IL Weather: Cold and Dry
 Plainfield Rd and Willowbrook Town Center Acc Dr
 Tuesday December 17, 2013

12/18/13
 18:16:10
























URNS/TEAPAC[Ver 3.61.12] - 15-Minute Counts: All Vehicles - by Mvmt

Intersection # 1 plainfield/willowtown													
Begin Time	N-Approach			E-Approach			S-Approach			W-Approach			Int Total
	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	
1100	0	0	0	0	149	40	35	0	17	45	148	1	435
1115	0	0	0	0	163	49	27	0	13	40	148	0	440
1130	0	0	0	0	214	52	39	0	15	56	159	0	535
1145	1	0	0	1	187	66	55	0	21	44	189	2	566
1200	0	0	0	0	189	60	39	0	14	61	146	1	510
1215	3	0	1	1	181	69	66	0	25	71	194	1	612
1230	1	0	0	0	174	73	76	0	16	52	185	3	580
1245	2	0	1	1	150	55	57	1	25	61	184	2	539
1300	0	0	0	0	140	61	84	0	26	52	196	0	559
1315	2	0	1	2	166	37	64	0	26	41	182	2	523
1330	0	0	0	1	159	47	49	0	25	46	203	1	531
1345	0	0	0	1	170	44	55	0	14	44	190	0	518
1400	0	0	0	0	181	42	54	0	25	48	175	0	525
1415	1	0	0	2	196	39	46	0	17	29	166	1	497
1430	2	0	1	0	178	35	41	0	21	52	202	0	532
1445	1	0	0	0	202	37	43	0	23	64	189	2	561
1500	0	0	1	0	205	40	53	0	27	57	188	1	572
1515	1	0	0	1	234	42	47	0	18	54	186	1	584
1530	1	0	3	4	230	48	44	0	20	63	184	0	597
1545	0	0	2	1	231	50	44	0	15	51	185	0	579
1800	0	0	0	0	239	59	38	0	12	80	157	1	586
1815	0	0	0	1	224	66	50	0	15	73	164	0	593
1830	0	0	0	0	217	46	45	0	17	74	116	0	515
1845	0	0	0	0	156	51	39	0	16	87	218	0	567
1900	0	0	0	0	130	41	37	0	19	66	167	0	460
1915	1	0	2	0	152	35	27	1	20	60	143	1	442
1930	0	0	0	0	136	23	37	0	19	46	105	0	366
1945	0	0	0	0	119	43	43	0	37	33	111	0	386
2000	1	0	0	2	120	28	45	0	19	25	112	0	352
2015	1	0	1	0	128	29	45	0	15	32	96	3	350
2030	1	0	0	0	114	16	32	0	14	29	85	0	291
2045	0	0	0	0	103	18	28	0	15	35	74	1	274
Total	19	0	13	18	5537	1441	1484	2	621	1671	5147	24	15977

Existing Conditions

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road













9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SEB
Lane Configurations												
Volume (vph)	301	522	17	82	208	117	18	1874	186	327	1052	127
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor									0.99			
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3490	0	1719	3551	1524	1480	3551	1553	3367	3519	1538
Flt Permitted	0.447			0.242			0.950			0.950		
Satd. Flow (perm)	825	3490	0	438	3551	1524	1480	3551	1533	3367	3519	1538
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			974	
Travel Time (s)		13.3			13.2			20.2			14.8	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	0%	5%	7%	6%	22%	7%	4%	4%	8%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	579	0	88	224	126	19	2015	200	352	1131	137
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	23.5	9.0	9.0	46.5	8.0	9.0	42.5	8.0
Total Split (s)	20.0	31.0		13.0	24.0	16.0	15.0	80.0	13.0	16.0	81.0	20.0
Total Split (%)	14.3%	22.1%		9.3%	17.1%	11.4%	10.7%	57.1%	9.3%	11.4%	57.9%	14.3%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0	1.0	1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5	4.5	5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	39.5	23.8		27.7	16.5	35.0	7.4	73.5	83.7	11.0	81.4	103.4
Actuated g/C Ratio	0.28	0.17		0.20	0.12	0.25	0.05	0.52	0.60	0.08	0.58	0.74
v/c Ratio	0.97	0.98		0.54	0.54	0.23	0.24	1.08	0.22	1.33	0.55	0.12
Control Delay	87.8	89.4		52.2	63.3	45.9	87.5	72.8	6.9	220.9	20.3	6.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.8	89.4		52.2	63.3	45.9	87.5	72.8	6.9	220.9	20.3	6.4
LOS	F	F		D	E	D	F	E	A	F	C	A
Approach Delay		88.8			56.1			67.0			62.7	
Approach LOS		F			E			E			E	
Queue Length 50th (ft)	261	280		61	102	94	19	~1080	25	~213	345	36

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	#490	#406		107	147	156	m33	#1215	36	#317	431	64
Internal Link Dist (ft)		702			694			1253			894	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	335	592		165	418	381	105	1864	921	264	2046	1136
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.98		0.53	0.54	0.33	0.18	1.08	0.22	1.33	0.55	0.12

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 27 (19%), Referenced to phase 2-NBT and 6-SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.33

Intersection Signal Delay: 68.5

Intersection LOS: E

Intersection Capacity Utilization: 107.3%

ICU Level of Service: G

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Kingery Highway & Plainfield Road




Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

9/26/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		TTT		T	TT
Volume (vph)	53	48	2096	38	28	1133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Ped Bike Factor	0.99		1.00			
Frt	0.931		0.997			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	3125	0	4831	0	1736	3551
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	3125	0	4831	0	1736	3551
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	9%	7%	8%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	2155	0	28	1144
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	9.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		84.0		21.0	105.0
Total Split (%)	25.0%		60.0%		15.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	10.8		109.1		7.8	117.2
Actuated g/C Ratio	0.08		0.78		0.06	0.84
v/c Ratio	0.41		0.57		0.29	0.38
Control Delay	66.3		7.9		68.5	2.1
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	66.3		7.9		68.5	2.1
LOS	E		A		E	A
Approach Delay	66.3		7.9			3.7
Approach LOS	E		A			A

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

9/26/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	45		286		26	70
Queue Length 95th (ft)	75		383		m48	m78
Internal Link Dist (ft)	604		276			1253
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	647		3764		204	2972
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.57		0.14	0.38

Intersection Summary






















Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 32 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 8.1
 Intersection Capacity Utilization 58.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road
























9/26/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SEB
Lane Configurations												
Volume (veh/h)	1	971	66	58	431	2	27	0	65	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	1	1067	73	64	474	2	30	0	71	2	0	0
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (ven)												
Median type		None			None							
Median storage (ven)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.85			0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	476			1141			1435	1674	535	1209	1745	238
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	476			810			1157	1438	97	891	1522	238
tC, single (s)	4.1			4.1			7.6	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			91			75	100	91	99	100	100
cM capacity (veh/h)	1097			688			117	103	804	172	92	770
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	534	534	73	64	316	160	30	71	2	0	
Volume Left	1	0	0	0	64	0	0	30	0	2	0	
Volume Right	0	0	0	73	0	0	2	0	71	0	0	
cSH	1097	1700	1700	1700	688	1700	1700	117	804	172	1700	
Volume to Capacity	0.00	0.31	0.31	0.04	0.09	0.19	0.09	0.25	0.09	0.01	0.00	
Queue Length 95th (ft)	0	0	0	0	8	0	0	23	7	1	0	
Control Delay (s)	8.3	0.0	0.0	0.0	10.8	0.0	0.0	45.7	9.9	26.2	0.0	
Lane LOS	A				B			E	A	D	A	
Approach Delay (s)	0.0				1.3			20.4		26.2		
Approach LOS								C		D		

Intersection Summary												
Average Delay			1.6									
Intersection Capacity Utilization			48.3%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road

9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	226	467	53	187	576	231	102	1252	180	241	1647	252
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00							0.99			
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3519	0	1736	3762	1568	1770	3619	1599	3467	3689	1583
Flt Permitted	0.170			0.180			0.950			0.950		
Satd. Flow (perm)	305	3519	0	329	3762	1568	1770	3619	1578	3467	3689	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			974	
Travel Time (s)		13.3			13.2			20.2			14.8	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	1%	0%	4%	1%	3%	2%	5%	1%	1%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	233	536	0	193	594	238	105	1291	186	248	1698	260
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	25.5	8.5	8.5	46.5	8.0	8.5	42.5	8.0
Total Split (s)	17.0	31.0		17.0	31.0	22.0	15.0	70.0	17.0	22.0	77.0	17.0
Total Split (%)	12.1%	22.1%		12.1%	22.1%	15.7%	10.7%	50.0%	12.1%	15.7%	55.0%	12.1%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.0	1.0	2.0	1.0	1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	4.5	4.5	6.5	4.5	4.5	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effci Green (s)	39.0	23.5		39.0	23.5	45.9	10.3	86.1	80.6	14.9	70.7	89.7
Actuated g/C Ratio	0.28	0.17		0.28	0.17	0.33	0.07	0.47	0.58	0.11	0.50	0.64
v/c Ratio	1.11	0.91		0.89	0.94	0.46	0.81	0.76	0.20	0.67	0.91	0.26
Control Delay	134.5	77.4		77.8	81.3	40.3	100.1	27.0	11.1	69.4	40.5	11.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.5	77.4		77.8	81.3	40.3	100.1	27.0	11.1	69.4	40.5	11.6
LOS	F	E		E	F	D	F	C	B	E	D	B
Approach Delay		94.7			71.1			30.0			40.3	
Approach LOS		F			E			C			D	
Queue Length 50th (ft)	~186	255		137	284	171	100	291	55	113	730	96


8/29/2013 P.M. Peak Hour Existing Traffic

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NER	SBL	SBT	SEB
Queue Length 95th (ft)	#361	#368		#259	#398	248	#204	359	81	157	851	142
Internal Link Dist (ft)		702			694			1253			894	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	209	590		217	631	543	132	1708	910	433	1863	1014
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.91		0.89	0.94	0.44	0.80	0.76	0.20	0.57	0.91	0.26

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 55 (40%), Referenced to phase 2(NBT) and 8(SBT), Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 60.6

Intersection LOS: D

Intersection Capacity Utilization 95.7%

ICU Level of Service F

Analysis Period (min): 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

9/26/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TTT		TTT		T	TT
Volume (vph)	194	88	1396	154	76	1747
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.953		0.985			
Flt Protected	0.967				0.950	
Satd. Flow (prot)	3397	0	4889	0	1787	3689
Flt Permitted	0.967				0.950	
Satd. Flow (perm)	3397	0	4889	0	1787	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	5%	0%	1%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	1598	0	78	1801
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		77.0		28.0	105.0
Total Split (%)	25.0%		55.0%		20.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	18.2		93.8		11.5	109.8
Actuated g/C Ratio	0.13		0.67		0.08	0.78
v/c Ratio	0.66		0.49		0.53	0.62
Control Delay	65.1		12.6		86.2	1.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	65.1		12.6		86.2	1.6
LOS	E		B		F	A
Approach Delay	65.1		12.6			5.1
Approach LOS	E		B			A
Queue Length 50th (ft)	131		242		76	60
Queue Length 95th (ft)	175		336		m84	76
Internal Link Dist (ft)	604		276			1253

8/29/2013 P.M. Peak Hour Existing Traffic

Synchro 8 Report
Page 3

Lanes, Volumes, Timings
 9: Kingery Highway & 72nd Court

9/26/2014



Lane Group	WBL	WBR	NET	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	703		3276		299	2893
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.41		0.49		0.26	0.62

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 84 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 12.9

Intersection LOS: B

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15
























m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court


























HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

9/26/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (veh/h)	6	717	165	189	1005	9	52	0	141	1	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	6	732	168	193	1026	9	53	0	144	1	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.89			0.89	0.89	0.89	0.89	0.89	
vC, conflicting volume	1035			900			1645	2164	366	1938	2328	517
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1035			631			1472	2057	28	1802	2242	517
tC, single (s)	4.4			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			77			18	100	84	97	100	99
cM capacity (veh/h)	585			852			65	38	928	31	29	508
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	6	366	366	168	193	684	351	53	144	1	3	
Volume Left	6	0	0	0	193	0	0	53	0	1	0	
Volume Right	0	0	0	168	0	0	9	0	144	0	3	
cSH	585	1700	1700	1700	852	1700	1700	65	928	31	508	
Volume to Capacity	0.01	0.22	0.22	0.10	0.23	0.40	0.21	0.82	0.16	0.03	0.01	
Queue Length 95th (ft)	1	0	0	0	22	0	0	94	14	2	0	
Control Delay (s)	11.2	0.0	0.0	0.0	10.5	0.0	0.0	167.3	9.6	123.7	12.1	
Lane LOS	B				B			F	A	F	B	
Approach Delay (s)	0.1				1.6			52.1		40.0		
Approach LOS								F		E		
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utilization			50.9%			ICU Level of Service			A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road













9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	211	363	80	153	323	220	143	1211	194	310	1272	286
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.35	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor						0.99			0.98			
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3474	0	1770	3762	1583	1805	3725	1583	3467	3725	1599
Flt Permitted	0.401			0.349			0.950			0.950		
Satd. Flow (perm)	754	3474	0	650	3762	1561	1805	3725	1559	3467	3725	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			974	
Travel Time (s)		13.3			13.2			20.2			14.8	
Confl. Peds. (#/hr)						2			3			
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	0%	2%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	215	442	0	156	330	224	146	1236	198	316	1298	292
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0	3.0	3.0	15.0	3.0
Minimum Split (s)	8.0	23.5		8.0	23.5	9.0	9.0	22.5	8.0	9.0	22.5	8.0
Total Split (s)	16.0	29.0		14.0	27.0	23.0	15.0	59.0	14.0	23.0	67.0	16.0
Total Split (%)	12.8%	23.2%		11.2%	21.6%	18.4%	12.0%	47.2%	11.2%	18.4%	53.6%	12.8%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5	3.5	3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0	1.0	1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5	4.5	5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	36.0	21.5		31.8	19.4	37.8	10.1	54.7	66.1	15.9	60.5	78.5
Actuated g/C Ratio	0.29	0.17		0.25	0.16	0.30	0.08	0.44	0.53	0.13	0.48	0.63
v/c Ratio	0.69	0.74		0.63	0.57	0.47	1.00	0.76	0.24	0.71	0.72	0.29
Control Delay	47.7	57.6		46.2	53.1	35.0	123.0	29.5	12.0	61.7	28.4	11.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	57.6		46.2	53.1	35.0	123.0	29.5	12.0	61.7	28.4	11.5
LOS	D	E		D	D	C	F	C	B	E	C	B
Approach Delay		54.3			45.9			36.0			31.3	
Approach LOS		D			D			D			C	

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

9/26/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	137	180		96	131	137	~123	224	48	127	425	101
Queue Length 95th (ft)	210	240		155	181	206	#266	418	89	175	510	149
Internal Link Dist (ft)		702			694			1253			894	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	312	597		250	586	501	146	1629	827	499	1802	1004
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.74		0.62	0.56	0.45	1.00	0.76	0.24	0.63	0.72	0.29

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 45 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 38.1

Intersection LOS: D

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

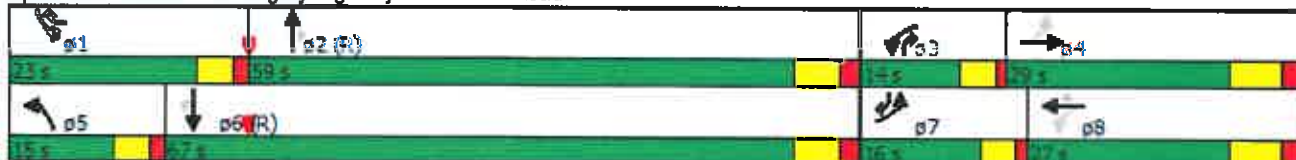
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingery Highway & Plainfield Road




Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

9/26/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		TTT		T	TT
Volume (vph)	301	156	1315	234	168	1362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.949		0.977			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	3375	0	4927	0	1805	3689
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	3375	0	4927	0	1805	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		856			1333
Travel Time (s)	15.5		13.0			20.2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	1%	3%	2%	0%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	0	1581	0	171	1390
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	37.0		63.0		25.0	88.0
Total Split (%)	29.6%		50.4%		20.0%	70.4%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	23.5		68.2		16.8	89.5
Actuated g/C Ratio	0.19		0.55		0.13	0.72
v/c Ratio	0.74		0.59		0.70	0.53
Control Delay	54.8		21.4		80.7	3.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	54.8		21.4		80.7	3.8
LOS	D		C		F	A
Approach Delay	54.8		21.4			12.2
Approach LOS	D		C			B
Queue Length 50th (ft)	185		302		148	99
Queue Length 95th (ft)	229		424		m207	118
Internal Link Dist (ft)	604		776			1253

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

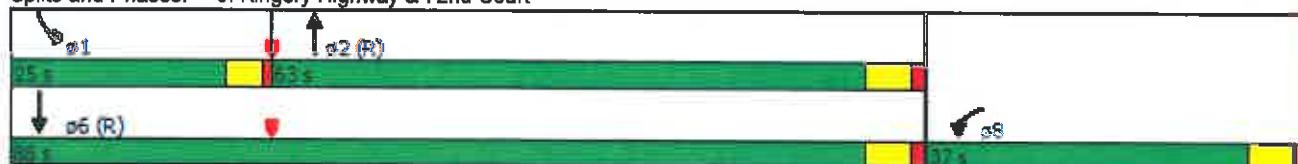
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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	837		2686		301	2641
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.56		0.59		0.57	0.53

Intersection Summary:























Area Type: Other
 Cycle Length: 125
 Actuated Cycle Length: 125
 Offset: 59 (47%), Referenced to phase 2 NBT and 6 SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 21.7
 Intersection LOS: C
 Intersection Capacity Utilization: 67.2%
 ICU Level of Service: C
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

9/26/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	8	600	244	215	520	0	85	0	188	1	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	632	257	226	653	0	89	0	198	1	0	5
Pedestrians		1						1				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked												
vC, conflicting volume	653			889			1435	1755	317	1636	2012	327
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	653			889			1435	1755	317	1636	2012	327
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			71			0	100	71	97	100	99
cM capacity (veh/h)	944			770			72	60	681	37	42	674
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	8	316	316	257	226	435	218	89	198	1	5	
Volume Left	8	0	0	0	226	0	0	89	0	1	0	
Volume Right	0	0	0	257	0	0	0	0	198	0	5	
cSH	944	1700	1700	1700	770	1700	1700	72	681	37	674	
Volume to Capacity	0.01	0.19	0.19	0.15	0.29	0.26	0.13	1.24	0.29	0.03	0.01	
Queue Length 95th (ft)	1	0	0	0	31	0	0	174	30	2	1	
Control Delay (s)	8.8	0.0	0.0	0.0	11.6	0.0	0.0	283.2	12.4	105.1	10.4	
Lane LOS	A				B			F	B	F	B	
Approach Delay (s)	0.1				3.0			96.7		26.2		
Approach LOS								F		D		
























Intersection Summary

Average Delay	14.8	
Intersection Capacity Utilization	50.1%	ICU Level of Service
Analysis Period (min)	15	A

Year 2020
No Build

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road













4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SEB
Lane Configurations												
Volume (vph)	322	559	18	88	223	125	18	1907	189	333	1070	129
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor									0.99			
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3490	0	1719	3551	1524	1480	3551	1553	3367	3519	1538
Flt Permitted	0.454			0.242			0.950			0.950		
Satd. Flow (perm)	837	3490	0	438	3551	1524	1480	3551	1530	3367	3519	1538
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			990	
Travel Time (s)		13.3			13.2			20.2			15.0	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	0%	5%	7%	6%	22%	7%	4%	4%	8%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	346	620	0	95	240	134	19	2051	203	358	1151	139
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	9.0	9.0	22.5	8.0	9.0	22.5	8.0
Total Split (s)	20.0	31.0		13.0	24.0	16.0	15.0	80.0	13.0	16.0	81.0	20.0
Total Split (%)	14.3%	22.1%		9.3%	17.1%	11.4%	10.7%	57.1%	9.3%	11.4%	57.9%	14.3%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.5	1.5	2.0	0.0	1.5	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	5.0	5.0	6.5	3.0	5.0	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	41.0	24.1		30.4	16.5	35.0	7.4	73.5	86.4	11.0	81.4	104.9
Actuated g/C Ratio	0.29	0.17		0.22	0.12	0.25	0.05	0.52	0.62	0.08	0.58	0.75
v/c Ratio	0.97	1.03		0.53	0.57	0.35	0.24	1.10	0.21	1.36	0.56	0.12
Control Delay	86.7	101.0		48.6	64.4	46.4	87.7	80.5	6.4	229.5	20.5	5.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.7	101.0		48.6	64.4	46.4	87.7	80.5	6.4	229.5	20.5	5.9
LOS	F	F		D	E	D	F	F	A	F	C	A
Approach Delay		95.8			56.1			74.0			64.7	
Approach LOS		F			E			E			E	
Queue Length 50th (ft)	279	~325		65	110	101	19	~1116	24	~220	354	35

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	#516	#449		112	157	166	m33	#1252	34	#323	442	62
Internal Link Dist (ft)		702			694			1253			910	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	356	601		188	418	381	105	1864	952	264	2046	1152
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.03		0.51	0.57	0.35	0.18	1.10	0.21	1.36	0.56	0.12

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 27 (19%), Referenced to phase 2 NBT and 6 SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay: 73.5

Intersection LOS: E

Intersection Capacity Utilization: 102.4%

ICU Level of Service: G

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.









Queue shown is maximum after two cycles

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles


m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Kingery Highway & Plainfield Road

 p1	 p2 (R)	 p3	 p4
15 s	20 s	23 s	31 s
 p5	 p6 (R)	 p7	 p8
15 s	21 s	20 s	24 s

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015






















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		TTT		T	TT
Volume (vph)	53	46	2133	38	28	1153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Per Bike Factor	0.99		1.00			
Frt	0.931		0.997			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	3123	0	4831	0	1736	3551
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	3123	0	4831	0	1736	3551
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	9%	7%	8%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	2193	0	28	1165
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		84.0		21.0	105.0
Total Split (%)	25.0%		60.0%		15.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	9.9		110.0		7.8	118.1
Actuated g/C Ratio	0.07		0.79		0.06	0.84
v/c Ratio	0.45		0.58		0.29	0.39
Control Delay	68.7		7.6		67.2	2.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	68.7		7.6		67.2	2.0
LOS	E		A		E	A
Approach Delay	68.7		7.6			3.5
Approach LOS	E		A			A

4/9/2015

Intersection Summary	
Area Type	Other
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 32 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization: 55.7%	ICU Level of Service: B
Analysis Period (min): 15	
m Volume for 95th percentile queue is metered by upstream signal	

HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road












4/9/2015

												
Movement	ESL	EBT	EBR	WSL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SSR
Lane Configurations												
Volume (veh/h)	1	1016	66	58	459	2	27	0	65	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	1	1116	73	64	504	2	30	0	71	2	0	0
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	507			1190			1499	1754	559	1265	1825	253
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	507			846			1215	1517	96	935	1602	253
tC, single (s)	4.1			4.1			7.6	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			90			72	100	91	99	100	100
cM capacity (veh/h)	1069			660			105	91	796	158	81	752
Direction Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	558	558	73	64	336	170	30	71	2	0	
Volume Left	1	0	0	0	64	0	0	30	0	2	0	
Volume Right	0	0	0	73	0	0	2	0	71	0	0	
cSH	1069	1700	1700	1700	660	1700	1700	105	796	158	1700	
Volume to Capacity	0.00	0.33	0.33	0.04	0.10	0.20	0.10	0.28	0.09	0.01	0.00	
Queue Length 95th (ft)	0	0	0	0	8	0	0	27	7	1	0	
Control Delay (s)	8.4	0.0	0.0	0.0	11.0	0.0	0.0	52.3	10.0	28.1	0.0	
Lane LOS	A				B			F	A	D	A	
Approach Delay (s)	0.0				1.2			22.4		28.1		
Approach LOS								C		D		

Intersection Summary												
Average Delay			1.6									
Intersection Capacity Utilization			49.6%		ICU Level of Service				A			
Analysis Period (min)			15									

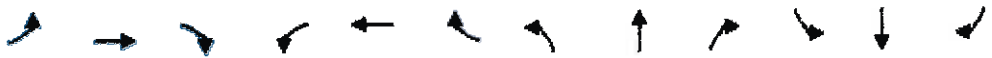
HCM Unsignalized Intersection Capacity Analysis 11: Kingery Highway

4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Volume (veh/h)	2	5	12	2342	1527	27	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	2	5	13	2546	1660	29	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLT		
Median storage (veh)					2		
Upstream signal (ft)				990			
pX, platoon unblocked	0.48						
vC, conflicting volume	2973	845	1689				
vC1, stage 1 conf vol	1674						
vC2, stage 2 conf vol	1299						
vCu, unblocked vol	2945	845	1689				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	98	98	97				
cM capacity (veh/h)	127	306	374				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	2	5	13	1273	1273	1107	583
Volume Left	2	0	13	0	0	0	0
Volume Right	0	5	0	0	0	0	29
cSH	127	306	374	1700	1700	1700	1700
Volume to Capacity	0.02	0.02	0.03	0.75	0.75	0.65	0.34
Queue Length 95th (ft)	1	1	3	0	0	0	0
Control Delay (s)	33.9	17.0	15.0	0.0	0.0	0.0	0.0
Lane LOS	D	C	B				
Approach Delay (s)	21.8		0.1			0.0	
Approach LOS	C						
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			74.7%		ICU Level of Service		D
Analysis Period (min)			15				

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road


4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SET	SEB
Lane Configurations	↰	↰		↰	↰	↰	↰	↰	↰	↰	↰	↰
Volume (vph)	242	500	57	200	616	247	104	1274	183	245	1676	256
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor		1.00							0.98			
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3518	0	1736	3762	1568	1770	3619	1599	3467	3689	1583
Flt Permitted	0.170			0.170			0.950			0.950		
Satd. Flow (perm)	305	3518	0	311	3762	1568	1770	3619	1572	3467	3689	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			990	
Travel Time (s)		13.3			13.2			20.2			15.0	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	1%	0%	4%	1%	3%	2%	5%	1%	1%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	574	0	206	636	256	107	1313	189	253	1728	264
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	8.5	8.5	22.5	8.0	8.5	22.5	8.0
Total Split (s)	17.0	31.0		17.0	31.0	22.0	15.0	70.0	17.0	22.0	77.0	17.0
Total Split (%)	12.1%	22.1%		12.1%	22.1%	15.7%	10.7%	50.0%	12.1%	15.7%	55.0%	12.1%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.0	1.0	2.0	0.0	1.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	4.5	4.5	6.5	3.0	4.5	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	42.0	23.5		42.0	23.5	46.1	10.3	65.9	83.4	15.1	70.7	91.2
Actuated g/C Ratio	0.30	0.17		0.30	0.17	0.33	0.07	0.47	0.60	0.11	0.50	0.65
v/c Ratio	1.08	0.97		0.88	1.01	0.50	0.82	0.77	0.20	0.68	0.93	0.26
Control Delay	119.6	88.5		72.5	94.8	41.1	101.5	27.3	10.4	69.5	42.3	11.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.6	88.5		72.5	94.8	41.1	101.5	27.3	10.4	69.5	42.3	11.0
LOS	F	F		E	F	D	F	C	B	E	D	B
Approach Delay		97.9			78.1			30.2			41.7	
Approach LOS		F			E			C			D	
Queue Length 50th (ft)	~193	276		144	~310	185	102	296	54	115	754	95

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	#373	#399		#270	#442	267	#208	359	79	160	#888	139
Internal Link Dist (ft)		702			694			1253			910	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	231	590		235	631	543	132	1704	939	433	1861	1030
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.97		0.88	1.01	0.47	0.81	0.77	0.20	0.58	0.93	0.26

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2 NBT and 6 SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 53.4

Intersection LOS: D

Intersection Capacity Utilization: 98.1%

ICU Level of Service: F

Analysis Period (min): 15

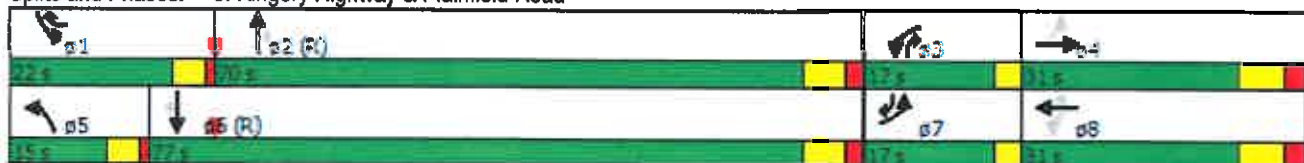
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles

95th percentile volume exceeds capacity, queue may be longer.


Queue shown is maximum after two cycles

Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TTT		T	TT
Volume (vph)	194	88	1420	154	76	1778
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.953		0.985			
Flt Protected	0.967				0.950	
Satd Flow (prot)	3397	0	4889	0	1787	3689
Flt Permitted	0.967				0.950	
Satd Flow (perm)	3397	0	4889	0	1787	3689
Right Turn on Red		No		No		
Satd Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	5%	0%	1%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	1623	0	78	1833
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		77.0		28.0	105.0
Total Split (%)	25.0%		55.0%		20.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	17.3		94.7		11.5	110.7
Actuated g/C Ratio	0.12		0.68		0.08	0.79
v/c Ratio	0.69		0.49		0.53	0.63
Control Delay	67.5		12.3		84.5	1.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	67.5		12.3		84.5	1.7
LOS	E		B		F	A
Approach Delay	67.5		12.3			5.1
Approach LOS	E		B			A
Queue Length 50th (ft)	132		243		75	64
Queue Length 95th (ft)	176		338		m82	m83
Internal Link Dist (ft)	604		276			1253

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	703		3307		299	2916
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.41		0.49		0.26	0.63

Intersection Summary






















Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 84 (60%), Referenced to phase 2 NBT and 6 SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 12.9
 Intersection LOS: B
 Intersection Capacity Utilization: 65.0%
 ICU Level of Service: C
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

4/9/2015












												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SSR
Lane Configurations												
Volume (veh/h)	6	757	165	189	1074	9	52	0	141	1	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	6	772	168	193	1096	9	53	0	144	1	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.87			0.87	0.87	0.87	0.87	0.87	
vC, conflicting volume	1105			941			1721	2276	386	2029	2439	553
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1105			641			1535	2170	6	1887	2358	553
tC, single (s)	4.4			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			77			7	100	85	96	100	99
cM capacity (veh/h)	547			832			57	31	944	27	24	482
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	SS 1
Volume Total	6	386	386	168	193	731	374	53	144	1		3
Volume Left	6	0	0	0	193	0	0	53	0	1		0
Volume Right	0	0	0	168	0	0	9	0	144	0		3
cSH	547	1700	1700	1700	832	1700	1700	57	944	27		482
Volume to Capacity	0.01	0.23	0.23	0.10	0.23	0.43	0.22	0.93	0.15	0.04		0.01
Queue Length 95th (ft)	1	0	0	0	22	0	0	105	13	3		0
Control Delay (s)	11.7	0.0	0.0	0.0	10.6	0.0	0.0	215.2	9.5	146.0		12.5
Lane LOS	B				B			F	A	F		B
Approach Delay (s)	0.1				1.6			64.9		45.9		
Approach LOS								F		E		

Intersection Summary

Average Delay	6.2	
Intersection Capacity Utilization	52.9%	ICU Level of Service A
Analysis Period (min)	15	
























HCM Unsignalized Intersection Capacity Analysis 11: Kingery Highway

4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Volume (veh/h)	8	18	36	1727	2159	37	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	9	20	39	1877	2347	40	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLTL		
Median storage veh					2		
Upstream signal (ft)				990			
pX, platoon unblocked	0.69						
vC, conflicting volume	3384	1193	2387				
vC1, stage 1 conf vol	2367						
vC2, stage 2 conf vol	1017						
vCu, unblocked vol	3557	1193	2387				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	84	89	80				
cM capacity (veh/h)	55	179	199				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	20	39	939	939	1564	822
Volume Left	9	0	39	0	0	0	0
Volume Right	0	20	0	0	0	0	40
cSH	55	179	199	1700	1700	1700	1700
Volume to Capacity	0.16	0.11	0.20	0.55	0.55	0.92	0.48
Queue Length 95th (ft)	13	9	18	0	0	0	0
Control Delay (s)	83.1	27.5	27.5	0.0	0.0	0.0	0.0
Lane LOS	F	D	D				
Approach Delay (s)	44.6		0.6			0.0	
Approach LOS	E						
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			70.9%		ICU Level of Service		C
Analysis Period (min)			15				

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT+CB	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	226	378	88	164	340	235	146	1232	197	315	1294	291
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor						0.98			0.98			
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3474	0	1770	3762	1583	1805	3725	1583	3467	3725	1599
Flt Permitted	0.355			0.292			0.950			0.950		
Satd. Flow (perm)	668	3474	0	544	3762	1557	1805	3725	1551	3467	3725	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			980	
Travel Time (s)		13.3			13.2			20.2			14.8	
Confl. Peds. (#/hr)						2			3			
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	0%	2%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	474	0	167	353	240	149	1257	201	321	1320	297
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	9.0	9.0	22.5	8.0	9.0	22.5	8.0
Total Split (s)	16.0	29.0		14.0	27.0	23.0	15.0	59.0	14.0	25.0	37.0	16.0
Total Split (%)	12.8%	23.2%		11.2%	21.6%	18.4%	12.0%	47.2%	11.2%	18.4%	53.6%	12.8%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.5	1.5	2.0	0.0	1.5	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	5.0	5.0	6.5	3.0	5.0	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	37.7	20.4		33.5	18.2	36.8	11.4	55.9	70.1	16.0	60.5	79.9
Actuated g/C Ratio	0.30	0.16		0.27	0.15	0.29	0.09	0.45	0.56	0.13	0.48	0.64
v/c Ratio	0.73	0.34		0.67	0.64	0.52	0.91	0.76	0.23	0.72	0.73	0.29
Control Delay	49.2	64.6		47.1	56.0	36.8	98.7	28.0	10.2	62.0	28.8	10.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	64.6		47.1	56.0	36.8	98.7	28.0	10.2	62.0	28.8	10.9
LOS	D	E		D	E	D	F	C	B	E	C	B
Approach Delay		59.6			48.0			32.4			31.6	
Approach LOS		E			D			C			C	

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	146	195		101	141	148	~131	223	45	129	437	99
Queue Length 95th (ft)	#225	#258		162	194	222	#272	407	77	177	523	147
Internal Link Dist (ft)		702			694			1253			900	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	318	597		254	586	485	164	1064	876	499	1802	1023
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.79		0.66	0.60	0.49	0.91	0.76	0.23	0.64	0.73	0.29

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 45 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 38.2

Intersection LOS: D

Intersection Capacity Utilization: 83.5%

ICU Level of Service: E

Analysis Period (min): 15

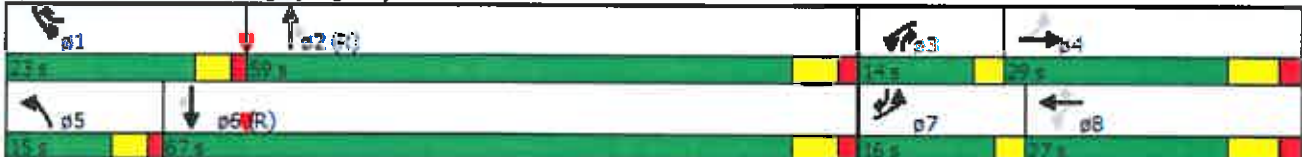
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.


Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingery Highway & Plainfield Road




Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TTT		T	TT
Volume (vph)	301	156	1338	234	168	1386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.949		0.978			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	3375	0	4932	0	1805	3689
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	3375	0	4932	0	1805	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		856			1333
Travel Time (s)	15.5		13.0			20.2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	1%	3%	2%	0%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	0	1604	0	171	1414
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	37.0		63.0		25.0	88.0
Total Split (%)	29.6%		50.4%		20.0%	70.4%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	22.5		69.0		17.0	90.5
Actuated g/C Ratio	0.18		0.55		0.14	0.72
v/c Ratio	0.77		0.59		0.70	0.53
Control Delay	57.4		21.0		77.1	3.8
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	57.4		21.0		77.1	3.8
LOS	E		C		E	A
Approach Delay	57.4		21.0			11.7
Approach LOS	E		C			B
Queue Length 50th (ft)	187		303		147	100
Queue Length 95th (ft)	234		427		m205	119
Internal Link Dist (ft)	604		776			1253

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

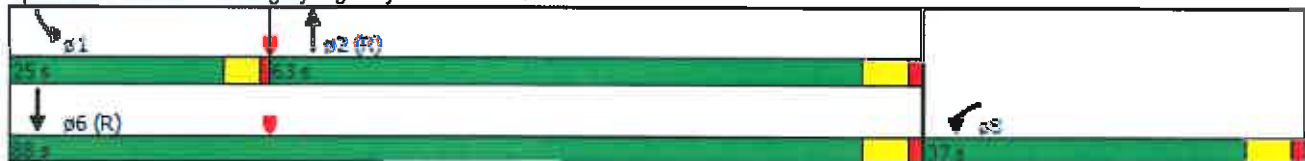
4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	837		2722		303	2671
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.56		0.59		0.56	0.53

Intersection Summary






















Area Type: Other
 Cycle Length: 125
 Actuated Cycle Length: 125
 Offset: 58 (46%), Referenced to phase 2 NBT and 6 SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 21.6
 Intersection LOS: C
 Intersection Capacity Utilization: 67.6%
 ICU Level of Service: C
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

4/3/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	8	633	244	215	689	0	85	0	188	1	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	688	257	226	704	0	89	0	198	1	0	5
Pedestrians		1						1				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked												
vC, conflicting volume	704			924			1495	1841	334	1705	2098	353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	704			924			1495	1841	334	1705	2098	353
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			70			0	100	70	97	100	99
cM capacity (veh/h)	903			747			65	53	664	32	36	648
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	8	333	333	257	226	489	235	89	198	1	5	
Volume Left	8	0	0	0	226	0	0	89	0	1	0	
Volume Right	0	0	0	257	0	0	0	0	198	0	5	
cSH	903	1700	1700	1700	747	1700	1700	65	664	32	648	
Volume to Capacity	0.01	0.20	0.20	0.15	0.30	0.28	0.14	1.39	0.30	0.03	0.01	
Queue Length 95th (ft)	1	0	0	0	32	0	0	189	31	2	1	
Control Delay (s)	9.0	0.0	0.0	0.0	11.9	0.0	0.0	353.5	12.7	120.5	10.6	
Lane LOS	A				B			F	B	F	B	
Approach Delay (s)	0.1				2.9			118.8		28.9		
Approach LOS								F		D		












Intersection Summary

Average Delay	17.2		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis

11: Kingery Highway

4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SEB	
Lane Configurations							
Volume (veh/h)	24	28	79	1614	1872	51	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	26	30	86	1754	2035	55	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLTL		
Median storage (veh)					2		
Upstream signal (ft)				980			
pX, platoon unblocked	0.71						
vC, conflicting volume	3111	1045	2090				
vC1, stage 1 conf vol	2062						
vC2, stage 2 conf vol	1049						
vCu, unblocked vol	3157	1045	2090				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	67	86	67				
cM capacity (veh/h)	79	225	261				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	26	30	86	877	877	1357	734
Volume Left	26	0	86	0	0	0	0
Volume Right	0	30	0	0	0	0	55
cSH	79	225	261	1700	1700	1700	1700
Volume to Capacity	0.33	0.14	0.33	0.52	0.52	0.80	0.43
Queue Length 95th (ft)	31	11	35	0	0	0	0
Control Delay (s)	71.8	23.5	25.4	0.0	0.0	0.0	0.0
Lane LOS	F	C	D				
Approach Delay (s)	45.8		1.2			0.0	
Approach LOS	E						
Intersection Summary							
Average Delay			1.2				
Intersection Capacity Utilization			71.1%		ICU Level of Service		C
Analysis Period (min)			15				

Year 2040
No Build

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	↖	↖		↖	↖	↖	↖	↖	↖	↖	↖	↖
Volume (vph)	382	663	22	104	264	149	19	2000	199	349	1123	136
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor									0.99			
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3491	0	1719	3551	1524	1480	3551	1553	3367	3519	1538
Flt Permitted	0.380			0.242			0.950			0.950		
Satd. Flow (perm)	701	3491	0	438	3551	1524	1480	3551	1530	3367	3519	1538
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			990	
Travel Time (s)		13.3			13.2			20.2			15.0	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	0%	5%	7%	6%	22%	7%	4%	4%	8%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	411	737	0	112	284	160	20	2151	214	375	1208	146
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	9.0	9.0	22.5	8.0	9.0	22.5	8.0
Total Split (s)	20.0	31.0		13.0	24.0	16.0	15.0	80.0	13.0	16.0	81.0	20.0
Total Split (%)	14.3%	22.1%		9.3%	17.1%	11.4%	10.7%	57.1%	9.3%	11.4%	57.9%	14.3%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.5	1.5	2.0	0.0	1.5	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	5.0	5.0	6.5	3.0	5.0	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	41.0	23.9		30.6	16.5	35.0	7.5	73.5	86.6	11.0	81.4	104.9
Actuated g/C Ratio	0.29	0.17		0.22	0.12	0.25	0.05	0.52	0.62	0.08	0.58	0.75
v/c Ratio	1.24	1.24		0.61	0.68	0.42	0.25	1.15	0.23	1.42	0.59	0.13
Control Delay	168.8	168.3		53.5	68.2	48.1	86.8	102.3	6.4	254.4	21.2	6.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	168.8	168.3		53.5	68.2	48.1	86.8	102.3	6.4	254.4	21.2	6.0
LOS	F	F		D	E	D	F	F	A	F	C	A
Approach Delay		168.5			59.4			93.5			70.5	
Approach LOS		F			E			F			E	
Queue Length 50th (ft)	~347	~441		77	132	123	20	~1216	25	~236	382	37

8/29/2013 A.M. Peak Hour Year 2040 No Build Traffic

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBT
Queue Length 95th (ft)	#555	#571		130	184	195	m33	#1352	35	#341	475	65
Internal Link Dist (ft)		702			694			1253			910	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	332	595		188	418	381	105	1864	952	264	2044	1152
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	1.24		0.60	0.68	0.42	0.19	1.15	0.22	1.42	0.59	0.13

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 27 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.42

Intersection Signal Delay: 98.2

Intersection LOS: F

Intersection Capacity Utilization 109.7%

ICU Level of Service H

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Kingery Highway & Plainfield Road

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TTT		T	TT
Volume (vph)	53	46	2236	38	28	1231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Ped Bike Factor	0.99		1.00			
Frt	0.931		0.998			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	3123	0	4836	0	1736	3551
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	3123	0	4836	0	1736	3551
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	9%	7%	8%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	2297	0	28	1243
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		84.0		21.0	105.0
Total Split (%)	25.0%		60.0%		15.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	9.9		110.0		7.8	118.1
Actuated g/C Ratio	0.07		0.79		0.06	0.84
v/c Ratio	0.45		0.60		0.29	0.41
Control Delay	68.7		8.0		66.4	2.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	68.7		8.0		66.4	2.0
LOS	E		A		E	A
Approach Delay	68.7		8.0			3.4
Approach LOS	E		A			A

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	45		312		26	65
Queue Length 95th (ft)	75		417		m44	m78
Internal Link Dist (ft)	604		276			1253
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	646		3801		204	2996
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.60		0.14	0.41

Intersection Summary

























Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 32 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 8.0
 Intersection Capacity Utilization 57.7%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal

Splits and Phases: 9: Kingery Highway & 72nd Court














HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1147	66	58	540	2	27	0	65	2	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	1	1260	73	64	593	2	30	0	71	2	0	0
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.84			0.84	0.84	0.84	0.84	0.84	
vC, conflicting volume	596			1334			1688	1987	631	1426	2058	298
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	596			1011			1433	1790	172	1120	1875	298
tC, single (s)	4.1			4.1			7.6	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			89			58	100	90	98	100	100
cM capacity (veh/h)	991			570			71	61	710	113	54	704
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	1	630	630	73	64	396	200	30	71	2	0	
Volume Left	1	0	0	0	64	0	0	30	0	2	0	
Volume Right	0	0	0	73	0	0	2	0	71	0	0	
cSH	991	1700	1700	1700	570	1700	1700	71	710	113	1700	
Volume to Capacity	0.00	0.37	0.37	0.04	0.11	0.23	0.12	0.42	0.10	0.02	0.00	
Queue Length 95th (ft)	0	0	0	0	9	0	0	41	8	1	0	
Control Delay (s)	8.6	0.0	0.0	0.0	12.1	0.0	0.0	88.3	10.6	37.6	0.0	
Lane LOS	A				B			F	B	E	A	
Approach Delay (s)	0.0				1.2			33.4		37.6		
Approach LOS								D		E		
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization		53.2%				ICU Level of Service			A			
Analysis Period (min)		15										

HCM Unsignalized Intersection Capacity Analysis 11: Kingery Highway
























4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SEB	
Lane Configurations							
Volume (veh/h)	2	5	12	2519	1603	27	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	2	5	13	2738	1742	29	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLT		
Median storage (veh)					2		
Upstream signal (ft)				990			
pX, platoon unblocked	0.48						
vC, conflicting volume	3152	886	1772				
vC1, stage 1 conf vol	1757						
vC2, stage 2 conf vol	1395						
vCu, unblocked vol	3315	886	1772				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	98	98	96				
cM capacity (veh/h)	115	288	347				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	2	5	13	1369	1369	1162	610
Volume Left	2	0	13	0	0	0	0
Volume Right	0	5	0	0	0	0	29
cSH	115	288	347	1700	1700	1700	1700
Volume to Capacity	0.02	0.02	0.04	0.81	0.81	0.68	0.36
Queue Length 95th (ft)	1	1	3	0	0	0	0
Control Delay (s)	36.9	17.8	15.8	0.0	0.0	0.0	0.0
Lane LOS	E	C	C				
Approach Delay (s)	23.2		0.1			0.0	
Approach LOS	C						
Intersection Summary							
Average Delay			0.1				
Intersection Capacity Utilization			79.6%		ICU Level of Service		D
Analysis Period (min)			15				

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	287	593	67	237	732	293	109	1337	192	257	1758	269
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Fed Bike Factor		1.00							0.98			
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	3518	0	1736	3762	1568	1770	3619	1599	3467	3689	1583
Flt Permitted	0.170			0.170			0.950			0.950		
Satd. Flow (perm)	305	3518	0	311	3762	1568	1770	3619	1572	3467	3689	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			980	
Travel Time (s)		13.3			13.2			20.2			14.8	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	1%	0%	4%	1%	3%	2%	5%	1%	1%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	296	680	0	244	755	302	112	1378	198	265	1812	277
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	8.5	8.5	22.5	8.0	8.5	22.5	8.0
Total Split (s)	17.0	31.0		17.0	31.0	22.0	15.0	70.0	17.0	22.0	77.0	17.0
Total Split (%)	12.1%	22.1%		12.1%	22.1%	15.7%	10.7%	50.0%	12.1%	15.7%	55.0%	12.1%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.0	1.0	2.0	0.0	1.0	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	4.5	4.5	6.5	3.0	4.5	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	42.0	23.5		42.0	23.5	46.4	10.5	65.6	83.1	15.4	70.5	91.0
Actuated g/C Ratio	0.30	0.17		0.30	0.17	0.33	0.08	0.47	0.59	0.11	0.50	0.65
v/c Ratio	1.28	1.15		1.04	1.20	0.58	0.85	0.81	0.21	0.70	0.98	0.27
Control Delay	189.5	137.4		108.2	152.1	43.7	104.7	29.0	10.6	70.1	49.8	11.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	189.5	137.4		108.2	152.1	43.7	104.7	29.0	10.6	70.1	49.8	11.2
LOS	F	F		F	F	D	F	C	B	E	D	B
Approach Delay		153.2			118.7			31.9			47.5	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	~281	~382		~178	~436	226	107	308	57	121	826	100

8/29/2013 P.M. Peak Hour Year 2040 No Build

Synchro 8 Report
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Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Queue Length 95th (ft)	#475	#510		#356	#567	321	#222	390	81	168	#1015	146
Internal Link Dist (ft)		702			694			1253			900	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	231	590		235	631	543	132	1696	936	433	1858	1029
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	1.15		1.04	1.20	0.56	0.85	0.81	0.21	0.61	0.98	0.27

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2: NBT and 6: SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.28

Intersection Signal Delay: 74.3

Intersection LOS: E

Intersection Capacity Utilization 106.1%

ICU Level of Service G

Analysis Period (min): 15









~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingery Highway & Plainfield Road

 p1	 p2 (R)	 p3	 p4
22 s	70 s	17 s	31 s
 p5	 p6 (R)	 p7	 p8
15 s	72 s	17 s	31 s

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBR
Lane Configurations	TT		TTT		T	TT
Volume (vph)	194	88	1499	154	76	1922
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Flt	0.953		0.986			
Flt Protected	0.967				0.950	
Satd. Flow (prot)	3397	0	4893	0	1787	3689
Flt Permitted	0.967				0.950	
Satd. Flow (perm)	3397	0	4893	0	1787	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	5%	0%	1%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	1704	0	78	1981
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		77.0		28.0	105.0
Total Split (%)	25.0%		55.0%		20.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effect Green (s)	17.3		94.7		11.5	110.7
Actuated g/C Ratio	0.12		0.68		0.08	0.79
v/c Ratio	0.69		0.51		0.53	0.68
Control Delay	67.5		12.6		81.4	2.2
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	67.5		12.6		81.4	2.2
LOS	E		B		F	A
Approach Delay	67.5		12.6			5.2
Approach LOS	E		B			A
Queue Length 50th (ft)	132		261		75	85
Queue Length 95th (ft)	176		362		m77	m95
Internal Link Dist (ft)	604		276			1253

8/29/2013 P.M. Peak Hour Year 2040 No Build

Synchro 8 Report
Page 3

Lanes, Volumes, Timings

9: Kingery Highway & 72nd Court

4/9/2015



Lane Group	WBL	WBR	TBT	NBR	SBT	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	703		3310		299	2916
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.41		0.51		0.26	0.68

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 84 (60%), Referenced to phase 2, NBT and 6, SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 12.8

Intersection LOS: B

Intersection Capacity Utilization 68.8%

ICU Level of Service C

Analysis Period (min): 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court
















HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	871	165	189	1272	9	52	0	141	1	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Hourly flow rate (vph)	6	889	168	193	1298	9	53	0	144	1	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.85			0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	1307			1057			1939	2594	444	2289	2758	654
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1307			717			1753	2523	0	2164	2715	654
tC, single (s)	4.4			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			75			0	100	85	93	100	99
cM capacity (veh/h)	452			760			37	18	929	16	13	414
Direction, Lane #	EB-1	EB-2	EB-3	EB-4	WB-1	WB-2	WB-3	NB-1	NB-2	SB-1	SB-2	
Volume Total	6	444	444	168	193	865	442	53	144	1	3	
Volume Left	6	0	0	0	193	0	0	53	0	1	0	
Volume Right	0	0	0	168	0	0	9	0	144	0	3	
cSH	452	1700	1700	1700	760	1700	1700	37	929	16	414	
Volume to Capacity	0.01	0.26	0.26	0.10	0.25	0.51	0.26	1.42	0.15	0.07	0.01	
Queue Length 95th (ft)	1	0	0	0	25	0	0	139	14	5	1	
Control Delay (s)	13.1	0.0	0.0	0.0	11.3	0.0	0.0	461.2	9.6	252.4	13.8	
Lane LOS	B				B			F	A	F	B	
Approach Delay (s)	0.1				1.5			131.3		73.4		
Approach LOS								F		F		
Intersection Summary												
Average Delay			10.3									
Intersection Capacity Utilization			58.3%			ICU Level of Service				B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 11: Kingery Highway
























4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SEB	
Lane Configurations							
Volume (veh/h)	9	18	36	1881	2286	37	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	9	20	39	2045	2463	40	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLT		
Median storage (veh)					2		
Upstream signal (ft)				980			
pX, platoon unblocked	0.66						
vC, conflicting volume	3584	1252	2503				
vC1, stage 1 conf vol	2483						
vC2, stage 2 conf vol	1101						
vCu, unblocked vol	3883	1252	2503				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	81	88	78				
cM capacity (veh/h)	47	164	179				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	20	39	1022	1022	1642	861
Volume Left	9	0	39	0	0	0	0
Volume Right	0	20	0	0	0	0	40
cSH	47	164	179	1700	1700	1700	1700
Volume to Capacity	0.19	0.12	0.22	0.60	0.60	0.97	0.51
Queue Length 95th (ft)	15	10	20	0	0	0	0
Control Delay (s)	98.5	30.0	30.7	0.0	0.0	0.0	0.0
Lane LOS	F	D	D				
Approach Delay (s)	51.0		0.6			0.0	
Approach LOS	F						
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			73.8%		ICU Level of Service		D
Analysis Period (min)			15				

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	268	448	102	194	410	279	153	1293	207	331	1358	305
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	2000	1900	1900	2000	1900
Storage Length (ft)	420		0	370		235	255		0	265		185
Storage Lanes	1		0	1		1	1		1	2		1
Taper Length (ft)	125			135			225			265		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Ped Bike Factor						0.98			0.98			
Frt		0.972				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3474	0	1770	3762	1583	1805	3725	1583	3467	3725	1599
Flt Permitted	0.291			0.205			0.950			0.950		
Satd. Flow (perm)	547	3474	0	382	3762	1557	1805	3725	1551	3467	3725	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			1000	
Travel Time (s)		13.3			13.2			20.2			15.2	
Confl. Peds. (#/hr)						2			3			
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	0%	2%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	273	561	0	198	418	285	156	1319	211	338	1386	311
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4			8		8			2			6
Detector Phase	7	4		3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	23.5		8.0	23.5	9.0	9.0	22.5	8.0	9.0	22.5	8.0
Total Split (s)	16.0	29.0		14.0	27.0	23.0	15.0	59.0	14.0	23.0	67.0	16.0
Total Split (%)	12.8%	23.2%		11.2%	21.6%	18.4%	12.0%	47.2%	11.2%	18.4%	53.6%	12.8%
Yellow Time (s)	3.0	5.0		3.0	5.0	3.5	3.5	4.5	3.0	3.5	4.5	3.0
All-Red Time (s)	0.0	2.5		0.0	2.5	1.5	1.5	2.0	0.0	1.5	2.0	0.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.5		3.0	7.5	5.0	5.0	6.5	3.0	5.0	6.5	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	None	None	C-Max	None
Act Effct Green (s)	39.0	21.5		35.0	19.5	38.4	10.0	54.1	68.6	16.4	60.5	80.0
Actuated g/C Ratio	0.31	0.17		0.28	0.16	0.31	0.08	0.43	0.55	0.13	0.48	0.64
v/c Ratio	0.91	0.94		0.86	0.71	0.59	1.08	0.82	0.25	0.75	0.77	0.30
Control Delay	70.9	75.9		68.3	57.7	38.5	143.0	30.7	10.9	62.9	30.1	11.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	75.9		68.3	57.7	38.5	143.0	30.7	10.9	62.9	30.1	11.0
LOS	E	E		E	E	D	F	C	B	E	C	B
Approach Delay		74.3			53.9			38.6			32.6	
Approach LOS		E			D			D			C	

8/29/2013 Saturday Midday Peak Hour Year 2040 No Build

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SBT	SEB
Queue Length 50th (ft)	177	238		122	171	180	~142	231	46	136	472	105
Queue Length 95th (ft)	#284	#348		#231	228	267	#286	435	87	187	564	154
Internal Link Dist (ft)		702			694			1253			920	
Turn Bay Length (ft)	420			370		235	255			265		185
Base Capacity (vph)	299	597		229	586	501	144	1613	854	499	1802	1023
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.94		0.86	0.71	0.57	1.08	0.82	0.25	0.68	0.77	0.30

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 45 (36%); Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 44.4

Intersection LOS: D

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min): 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.






Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	301	156	1420	234	168	1511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.949		0.979			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	3375	0	4937	0	1805	3689
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	3375	0	4937	0	1805	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		856			1333
Travel Time (s)	15.5		13.0			20.2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	1%	3%	2%	0%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	0	1688	0	171	1542
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	37.0		63.0		25.0	88.0
Total Split (%)	29.6%		50.4%		20.0%	70.4%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	22.5		69.0		17.0	90.5
Actuated g/C Ratio	0.18		0.55		0.14	0.72
v/c Ratio	0.77		0.62		0.70	0.58
Control Delay	57.4		21.6		74.3	4.1
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	57.4		21.6		74.3	4.1
LOS	E		C		E	A
Approach Delay	57.4		21.6			11.1
Approach LOS	E		C			B
Queue Length 50th (ft)	187		327		145	120
Queue Length 95th (ft)	234		459		m189	m149
Internal Link Dist (ft)	604		776			1253

Lanes, Volumes, Timings
 9: Kingery Highway & 72nd Court

4/9/2015

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NLE	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	837		2725		303	2671
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.56		0.62		0.56	0.58

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 58 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 21.3

Intersection LOS: C

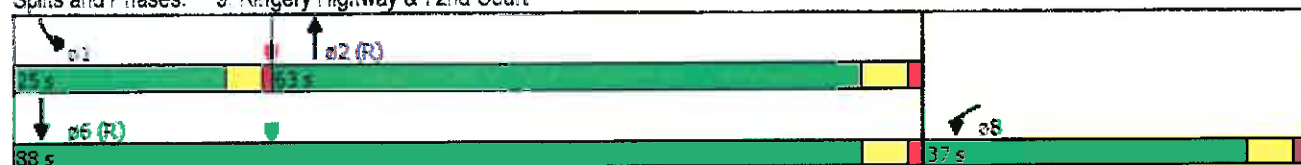
Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min): 15






















m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 6: Willowbrook Town Center & Plainfield Road














4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	729	244	215	807	0	85	0	188	1	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	767	257	226	849	0	89	0	198	1	0	5
Pedestrians		1						1				
Lane Width (ft)		12.0						12.0				
Walking Speed (ft/s)		4.0						4.0				
Percent Blockage		0						0				
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		774										
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	849			1025			1669	2087	385	1901	2344	426
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	849			883			1573	2022	197	1822	2297	426
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			69			0	100	74	96	100	99
cM capacity (veh/h)	797			722			52	37	759	26	25	582
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	
Volume Total	8	384	384	257	226	566	283	89	198	1	5	
Volume Left	8	0	0	0	226	0	0	89	0	1	0	
Volume Right	0	0	0	257	0	0	0	0	198	0	5	
cSH	797	1700	1700	1700	722	1700	1700	52	759	26	582	
Volume to Capacity	0.01	0.23	0.23	0.15	0.31	0.33	0.17	1.72	0.26	0.04	0.01	
Queue Length 95th (ft)	1	0	0	0	34	0	0	215	26	3	1	
Control Delay (s)	9.6	0.0	0.0	0.0	12.2	0.0	0.0	519.3	11.4	151.8	11.2	
Lane LOS	A				B			F	B	F	B	
Approach Delay (s)	0.1				2.6			169.5		34.7		
Approach LOS								F		D		
Intersection Summary												
Average Delay			21.6									
Intersection Capacity Utilization			53.7%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

11: Kingery Highway


4/9/2015

							
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations				 	 		
Volume (veh/h)	24	23	79	1761	1966	51	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	26	30	86	1914	2137	55	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	TWLT		
Median storage (veh)					2		
Upstream signal (ft)				1000			
pX, platoon unblocked	0.68						
vC, conflicting volume	3293	1096	2192				
vC1, stage 1 conf vol	2165						
vC2, stage 2 conf vol	1129						
vCu, unblocked vol	3433	1096	2192				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)	5.8						
tF (s)	3.5	3.3	2.2				
p0 queue free %	62	85	64				
cM capacity (veh/h)	69	208	238				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	26	30	86	957	957	1425	768
Volume Left	26	0	86	0	0	0	0
Volume Right	0	30	0	0	0	0	55
cSH	69	208	238	1700	1700	1700	1700
Volume to Capacity	0.38	0.15	0.36	0.56	0.56	0.84	0.45
Queue Length 95th (ft)	36	13	39	0	0	0	0
Control Delay (s)	85.6	25.2	28.5	0.0	0.0	0.0	0.0
Lane LOS	F	D	D				
Approach Delay (s)	53.1		1.2			0.0	
Approach LOS	F						
Intersection Summary							
Average Delay			1.3				
Intersection Capacity Utilization			73.7%		ICU Level of Service		D
Analysis Period (min)			15				

Year 2020
Proposed Improvements

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TT	TT		TT	TT	T	T	TTT		TT	TT	T
Volume (vph)	332	695	18	133	287	125	18	1947	199	355	1063	129
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00		0.91	0.97	0.95	1.00
Ped Bike Factor								1.00				
Frt		0.996				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3286	3377	0	3224	3433	1473	1480	4787	0	3367	3519	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3286	3377	0	3224	3433	1473	1480	4787	0	3367	3519	1538
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			660	
Travel Time (s)		13.3			13.2			20.2			10.0	
Confl. Peds. (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	0%	5%	7%	6%	22%	7%	4%	4%	8%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	363	670	0	143	287	134	19	2307	0	382	1143	139
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	13.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	23.5		8.0	23.0	9.0	9.0	22.5		9.0	22.5	8.0
Total Split (s)	21.0	31.0		13.0	23.0	16.0	15.0	80.0		16.0	31.0	21.0
Total Split (%)	15.0%	22.1%		9.3%	16.4%	11.4%	10.7%	57.1%		11.4%	57.9%	15.0%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0		1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5		5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	16.5	23.5		8.5	15.5	34.0	7.4	73.5		11.0	81.4	104.4
Actuated g/C Ratio	0.12	0.17		0.06	0.11	0.24	0.05	0.52		0.08	0.58	0.75
v/c Ratio	0.94	1.18		0.73	0.76	0.38	0.24	0.92		1.45	0.56	0.12
Control Delay	93.3	149.0		101.0	62.6	40.1	86.8	30.2		264.8	20.4	6.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	93.3	149.0		101.0	62.6	40.1	86.8	30.2		264.8	20.4	6.1
LOS	F	F		F	E	D	F	C		F	C	A
Approach Delay		129.4			67.0			30.7			75.3	
Approach LOS		F			E			C			E	

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

	↖	→	↗	↖	←	↖	↗	↑	↖	↗	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	171	~384		71	138	109	19	690		~243	350	36
Queue Length 95th (ft)	#269	#510		#121	#195	177	m32	767		#349	437	62
Internal Link Dist (ft)		702			694			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	387	566		195	380	357	105	2513		264	2046	1147
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.94	1.18		0.73	0.76	0.38	0.18	0.92		1.45	0.56	0.12

Intersection Summary

Area Type Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 27 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.45

Intersection Signal Delay: 65.9

Intersection LOS: E

Intersection Capacity Utilization 92.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

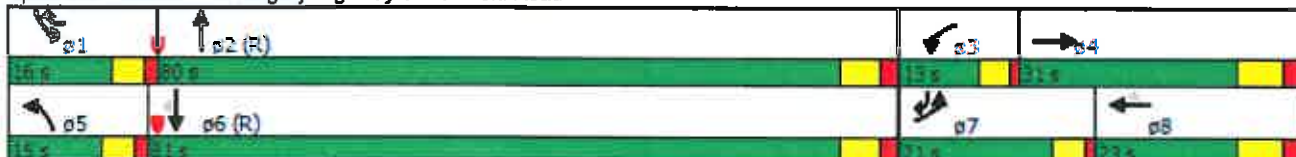
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road













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	EBL	EBT	EBR	WSB	WBT	WBR	NBL	NET	NBR	SBL	SEB	SEB
Lane Group	EBL	EBT	EBR	WSB	WBT	WBR	NBL	NET	NBR	SBL	SEB	SEB
Lane Configurations	↩	↩↩	↩	↩	↩↩	↩	↩	↩	↩	↩	↩	↩
Volume (vph)	92	1003	66	58	454	84	27	12	65	22	9	105
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	160			205			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98	1.00								
Frt			0.850			0.850		0.873			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1558	1770	3654	1615	1736	1659	0	1805	1638	0
Flt Permitted	0.448			0.211			0.609			0.663		
Satd. Flow (perm)	851	3689	1535	393	3654	1615	1113	1659	0	1260	1638	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		774			326			242			202	
Travel Time (s)		13.2			9.8			5.5			4.6	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	2%	4%	0%	4%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1102	73	64	499	92	30	84	0	68	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	22.0		8.0	22.0	
Total Split (s)	10.0	89.0	89.0	12.0	91.0	91.0	10.0	29.0		10.0	29.0	
Total Split (%)	7.1%	63.6%	63.6%	8.6%	65.0%	65.0%	7.1%	20.7%		7.1%	20.7%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	100.2	92.9	92.9	99.0	90.7	90.7	23.7	17.8		24.6	19.8	
Actuated g/C Ratio	0.72	0.66	0.66	0.71	0.65	0.65	0.17	0.13		0.18	0.14	
v/c Ratio	0.15	0.45	0.07	0.19	0.21	0.09	0.14	0.40		0.28	0.54	
Control Delay	2.1	4.0	3.6	7.2	11.0	10.6	44.7	61.1		48.4	64.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	2.1	4.0	3.6	7.2	11.0	10.6	44.7	61.1		48.4	64.8	
LOS	A	A	A	A	B	B	D	E		D	E	
Approach Delay		3.8			10.6			56.8			59.0	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	8	72	8	15	95	31	22	72		52	110	

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m8	m65	m8	33	133	58	49	122		91	172	
Internal Link Dist (ft)		694			246			162			122	
Turn Bay Length (ft)	120			200		115						
Base Capacity (vph)	656	2447	1018	353	2367	1046	213	272		243	274	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.15	0.45	0.07	0.18	0.21	0.09	0.14	0.31		0.28	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 112 (80%), Referenced to phase 2 EBT and 6 WBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 13.3

Intersection LOS: B

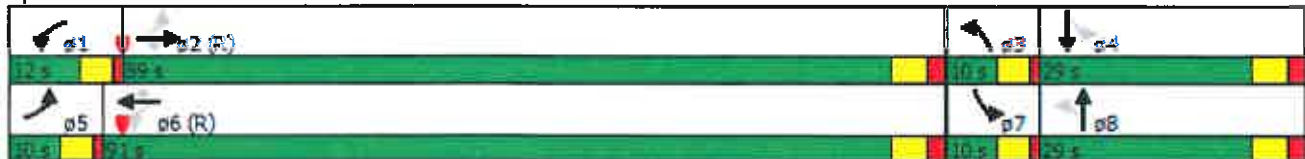
Intersection Capacity Utilization: 55.9%

ICU Level of Service: B

Analysis Period (min): 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WEL	WBR	NET	NBR	SBL	SBT
Lane Configurations	WT		TTT		T	TT
Volume (vph)	53	46	2183	38	28	1187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.96
Ped Bike Factor	0.99		1.00			
Frt	0.931		0.997			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	3125	0	4831	0	1736	3551
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	3125	0	4831	0	1736	3551
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	9%	7%	8%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	2243	0	28	1199
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		84.0		21.0	105.0
Total Split (%)	25.0%		60.0%		15.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	10.8		109.1		7.8	117.2
Actuated g/C Ratio	0.08		0.78		0.36	0.84
v/c Ratio	0.41		0.60		0.29	0.40
Control Delay	66.3		8.2		64.2	2.6
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	66.3		8.2		64.2	2.6
LOS	E		A		E	A
Approach Delay	66.3		8.2			4.0
Approach LOS	E		A			A

Lanes, Volumes, Timings

9: Kingery Highway & 72nd Court

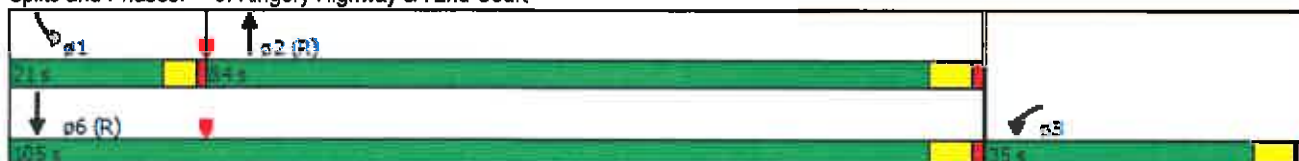
4/9/2015

	↙	↘	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	45		309		25	108
Queue Length 95th (ft)	75		410		m45	m121
Internal Link Dist (ft)	604		276			1253
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	647		3764		204	2972
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.60		0.14	0.40

Intersection Summary










Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 32 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 8.4
 Intersection LOS: A
 Intersection Capacity Utilization: 59.7%
 ICU Level of Service: B
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court























HCM Unsignalized Intersection Capacity Analysis 12: Kingery Highway & Access Drive

4/9/2015

	WBL	WBR	NBT	NBR	SBL	SBT
						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	39	2345	65	0	1534
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	41	2468	68	0	1615
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.57	0.57			0.57	
vC, conflicting volume	3310	857			2537	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2400	0			1036	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	16	614			378	
Direction Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	41	987	987	562	807	807
Volume Left	0	0	0	0	0	0
Volume Right	41	0	0	68	0	0
cSH	614	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.58	0.58	0.33	0.47	0.47
Queue Length 95th (ft)	5	0	0	0	0	0
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	11.3	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			56.8%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 14: Kingery Highway & 69th Street/Service Drive

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	0	5	0	0	7	12	2367	5	37	1529	27
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	0	5	0	0	7	13	2492	5	39	1609	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								TWLTL			
Median storage (veh)									2			
Upstream signal (ft)	1000											
pX, platoon unblocked	0.49	0.49		0.49	0.49	0.49				0.49		
vC, conflicting volume	2980	4224	819	3405	4233	1246	1638			2497		
vC1, stage 1 conf vol	1702	1702		2517	2517							
vC2, stage 2 conf vol	1278	2522		888	1716							
vCu, unblocked vol	2960	5477	819	3819	5495	0	1638			1982		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	7.1	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.4	2.2			2.2		
p0 queue free %	97	100	98	100	100	99	97			73		
cM capacity (veh/h)	68	9	323	27	40	523	401			142		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3		
Volume Total	2	5	7	13	1246	1246	5	39	1073	565		
Volume Left	2	0	0	13	0	0	0	39	0	0		
Volume Right	0	5	7	0	0	0	5	0	0	28		
cSH	68	323	523	401	1700	1700	1700	142	1700	1700		
Volume to Capacity	0.03	0.02	0.01	0.03	0.73	0.73	0.00	0.27	0.63	0.33		
Queue Length 95th (ft)	2	1	1	2	0	0	0	26	0	0		
Control Delay (s)	59.9	16.3	12.0	14.3	0.0	0.0	0.0	39.6	0.0	0.0		
Lane LOS	F	C	B	B				E				
Approach Delay (s)	28.8		12.0	0.1				0.9				
Approach LOS	D		B									
Intersection Summary												
Average Delay	0.5											
Intersection Capacity Utilization	82.1%				ICU Level of Service				E			
Analysis Period (min)	15											

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015




Lane Group	EBL	EBT	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL	EBL+MBL
Lane Configurations	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑	↑↑
Volume (vph)	287	574	57	280	705	247	104	1338	198	282	1665	256
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.986				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3193	3405	0	3255	3637	1516	1770	4862	0	3467	3689	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3193	3405	0	3255	3637	1516	1770	4862	0	3467	3689	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		684			773			1333			660	
Travel Time (s)		11.7			13.2			20.2			19.0	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	1%	0%	4%	1%	3%	2%	5%	1%	1%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	275	651	0	289	727	255	107	1583	0	291	1716	264
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	25.5	8.5	8.5	46.5		8.5	46.5	8.0
Total Split (s)	13.0	34.0		14.0	38.0	22.0	15.0	70.0		22.0	77.0	13.0
Total Split (%)	9.3%	24.3%		10.0%	25.0%	15.7%	10.7%	50.0%		15.7%	55.0%	9.3%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.0	1.0	2.0		1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	4.5	4.5	6.5		4.5	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	8.5	26.5		9.5	27.5	51.0	10.3	65.0		16.0	70.7	85.7
Actuated g/C Ratio	0.06	0.19		0.07	0.20	0.36	0.07	0.46		0.11	0.50	0.61
v/c Ratio	1.42	1.01		1.31	1.02	0.45	0.82	0.70		0.74	0.92	0.27
Control Delay	263.3	93.9		225.9	79.5	20.6	100.3	26.0		71.5	41.6	13.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	263.3	93.9		225.9	79.5	20.6	100.3	26.0		71.5	41.6	13.6
LOS	F	F		F	E	C	F	C		E	D	B
Approach Delay		144.2			101.0			30.7			42.2	
Approach LOS		F			F			C			D	

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	~173	~320		~179	~324	59	102	247		132	745	107
Queue Length 95th (ft)	#268	#453		#278	#486	80	#208	317		183	867	157
Internal Link Dist (ft)		604			693			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	193	644		220	714	568	132	2258		433	1861	968
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.42	1.01		1.31	1.02	0.45	0.81	0.70		0.67	0.92	0.27

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.42

Intersection Signal Delay: 66.5

Intersection LOS: E

Intersection Capacity Utilization 94.8%

ICU Level of Service F

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.























Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road













4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEB	SBR
Lane Configurations												
Volume (vph)	148	734	165	189	1050	137	52	18	141	124	18	203
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	180			205		1	25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98									
Frt			0.850			0.850		0.867			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3762	1615	1805	3725	1615	1805	1647	0	1805	1608	0
Flt Permitted	0.196			0.304			0.402			0.500		
Satd. Flow (perm)	369	3762	1580	578	3725	1615	764	1647	0	950	1608	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		773			353			242			202	
Travel Time (s)		13.2			6.1			5.5			4.6	
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	749	168	193	1071	140	53	162	0	127	225	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	25.0		3.0	25.0	
Minimum Split (s)	3.0	22.0	22.0	8.0	22.0	22.0	8.0	31.0		8.0	31.0	
Total Split (s)	15.0	79.0	79.0	20.0	84.0	84.0	10.0	31.0		10.0	31.0	
Total Split (%)	10.7%	58.4%	56.4%	14.3%	60.0%	60.0%	7.1%	22.1%		7.1%	22.1%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	88.3	77.5	77.5	91.7	79.2	79.2	32.0	25.0		32.9	27.0	
Actuated g/C Ratio	0.63	0.55	0.55	0.66	0.57	0.57	0.23	0.18		0.24	0.19	
v/c Ratio	0.46	0.36	0.19	0.41	0.51	0.15	0.25	0.55		0.50	0.73	
Control Delay	13.5	6.8	6.6	11.0	19.7	15.2	42.8	60.4		50.7	68.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.5	6.8	6.6	11.0	19.7	15.2	42.8	60.4		50.7	68.3	
LOS	B	A	A	B	B	B	D	E		D	E	
Approach Delay		7.7			18.1			56.1			62.0	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	20	69	29	59	302	59	37	136		93	198	

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m24	m74	m34	90	367	97	74	214		152	#324	
Internal Link Dist (ft)		693			279			162			122	
Turn Bay Length (ft)	120			200		115						
Base Capacity (vph)	342	2082	874	525	2106	913	215	294		256	310	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.44	0.36	0.19	0.37	0.51	0.15	0.25	0.55		0.50	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 133 (95%), Referenced to phase 2 EBTL and 6 WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 22.2

Intersection LOS: C

Intersection Capacity Utilization: 81.0%

ICU Level of Service: D

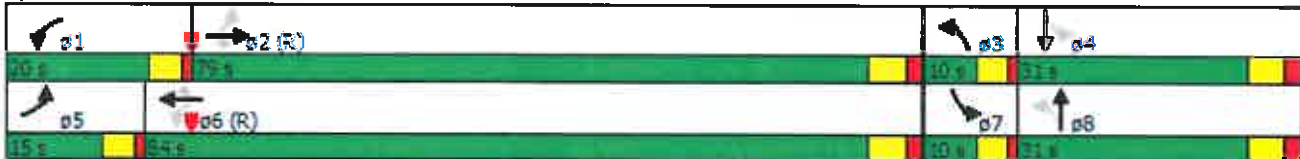
Analysis Period (min): 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road








Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		WT		WT	WT
Volume (vph)	194	88	1498	154	78	1046
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.953		0.986			
Flt Protected	0.967				0.950	
Satd. Flow (prot)	3397	0	4893	0	1787	3689
Flt Permitted	0.967				0.950	
Satd. Flow (perm)	3397	0	4893	0	1787	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	5%	0%	1%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	1703	0	78	1903
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		77.0		28.0	105.0
Total Split (%)	25.0%		55.0%		20.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	18.2		93.8		11.5	109.8
Actuated g/C Ratio	0.13		0.67		0.08	0.78
v/c Ratio	0.66		0.52		0.53	0.66
Control Delay	65.1		13.1		83.3	1.5
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	65.1		13.1		83.3	1.5
LOS	E		B		F	A
Approach Delay	65.1		13.1			4.7
Approach LOS	E		B			A
Queue Length 50th (ft)	131		267		76	41
Queue Length 95th (ft)	175		368		m78	m50
Internal Link Dist (ft)	604		276			1253

Lanes, Volumes, Timings 9: Kingery Highway & 72nd Court

4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	703		3279		299	2893
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.41		0.52		0.26	0.66

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 84 (60%), Referenced to phase 2 NBT and 6.SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 12.7

Intersection LOS: B

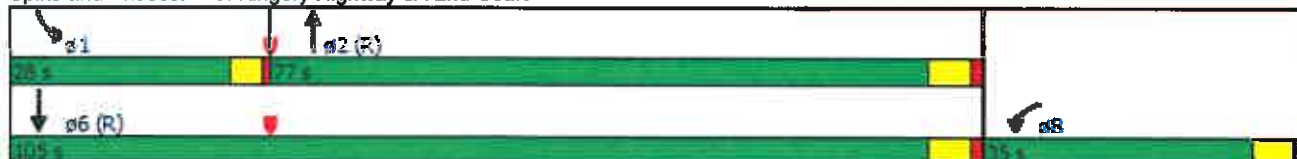
Intersection Capacity Utilization: 66.8%

ICU Level of Service: C

Analysis Period (min): 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 12: Kingery Highway & Access Drive






















4/9/2015

	<div> </div>					
Movement	WBL	WBR	NBT	NSR	SBL	SBT
Lane Configurations		↗	↕↕↕			↗↗
Volume (veh/h)	0	75	1748	104	0	2193
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	79	1840	109	0	2308
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.76	0.76			0.76	
vC, conflicting volume	3049	668			1949	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2580	0			1126	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	16	820			466	
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	79	736	736	477	1154	1154
Volume Left	0	0	0	0	0	0
Volume Right	79	0	0	109	0	0
cSH	820	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.43	0.43	0.28	0.68	0.68
Queue Length 95th (ft)	8	0	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	9.9	0.0			0.0	
Approach LOS	A					

Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		64.0%		ICU Level of Service		B
Analysis Period (min)		15				
























HCM Unsignalized Intersection Capacity Analysis 14: Kingery Highway & 69th Street/Service Drive

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	0	18	0	0	17	36	1772	10	56	2175	37
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92
Hourly flow rate (vph)	8	0	19	0	0	18	38	1865	11	59	2289	40
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			TWLTL		
Median storage (veh)										2		
Upstream signal (ft)							981					
pX, platoon unblocked	0.72	0.72		0.72	0.72	0.72				0.72		
vC, conflicting volume	3454	4379	1165	3223	4389	933	2330			1876		
vC1, stage 1 conf vol	2427	2427		1941	1941							
vC2, stage 2 conf vol	1026	1952		1282	2448							
vCu, unblocked vol	3626	4904	1165	3307	4917	146	2330			1448		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	69	100	90	100	100	97	82			82		
cM capacity (veh/h)	27	32	190	53	12	634	216			336		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3		
Volume Total	8	19	18	38	933	933	11	59	1526	803		
Volume Left	8	0	0	38	0	0	0	59	0	0		
Volume Right	0	19	18	0	0	0	11	0	0	40		
cSH	27	190	634	216	1700	1700	1700	336	1700	1700		
Volume to Capacity	0.31	0.10	0.03	0.18	0.55	0.55	0.01	0.18	0.90	0.47		
Queue Length 95th (ft)	24	8	2	16	0	0	0	16	0	0		
Control Delay (s)	191.8	26.0	10.8	25.2	0.0	0.0	0.0	18.0	0.0	0.0		
Lane LOS	F	D	B	D				C				
Approach Delay (s)	77.0		10.8	0.5				0.4				
Approach LOS	F		B									
Intersection Summary												
Average Delay				1.0								
Intersection Capacity Utilization				71.3%			ICU Level of Service			C		
Analysis Period (min)				15								

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road













4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SET	SEB
Lane Configurations												
Volume (vph)	259	478	88	268	470	235	148	1317	217	368	1279	291
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Ped Bike Factor						0.99		1.00				
Frt		0.977				0.850		0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	3376	0	3319	3637	1531	1805	4967	0	3467	3725	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3351	3376	0	3319	3637	1509	1805	4967	0	3467	3725	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			660	
Travel Time (s)		13.3			13.2			20.2			10.0	
Conf. Peds. (#/hr)						2			3			
Conf. Bikes (#/hr)									3			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	0%	2%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	264	574	0	273	480	240	149	1565	0	373	1305	297
Turn Type	Prot	NA		Prot	NA	pm-tov	Prot	NA		Prot	NA	pm-tov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	25.5	9.0	9.0	24.5		9.0	24.5	8.0
Total Split (s)	16.0	27.0		16.0	27.0	23.0	19.0	59.0		23.0	63.0	16.0
Total Split (%)	12.8%	21.6%		12.8%	21.6%	18.4%	15.2%	47.2%		18.4%	50.4%	12.8%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0		1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5		5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	11.5	19.5		11.5	19.5	39.0	13.2	53.5		17.0	57.3	75.3
Actuated g/C Ratio	0.09	0.16		0.09	0.16	0.31	0.11	0.43		0.14	0.46	0.60
v/c Ratio	0.86	1.09		0.90	0.85	0.51	0.78	0.74		0.79	0.76	0.31
Control Delay	81.3	115.2		80.8	79.0	25.9	74.1	29.9		65.3	32.2	13.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	81.3	115.2		80.8	79.0	25.9	74.1	29.9		65.3	32.2	13.4
LOS	F	F		F	E	C	E	C		E	C	B
Approach Delay		104.6			66.6			33.8			35.6	

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	F			E			C			D		
Queue Length 50th (ft)	110	~274		109	217	117	123	200		151	458	113
Queue Length 95th (ft)	#183	#392		m#163	m256	m150	#220	371		205	549	167
Internal Link Dist (ft)		702			694			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	308	526		305	567	486	202	2127		499	1706	963
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.86	1.09		0.90	0.85	0.49	0.74	0.74		0.75	0.76	0.31

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 45 (36%), Referenced to phase 2 NBT and 6 SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 51.1

Intersection LOS: D

Intersection Capacity Utilization: 84.8%

ICU Level of Service: E

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

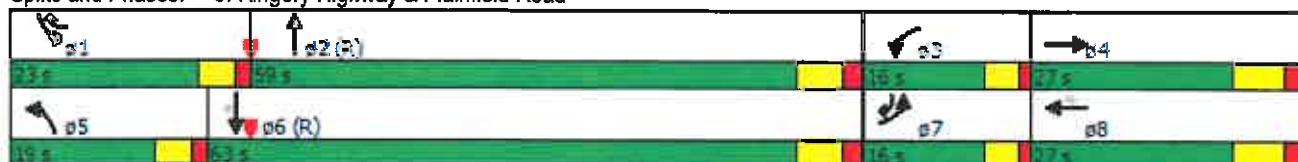
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road













4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (vph)	201	601	244	215	637	185	85	25	188	173	24	263
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			205			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.98	
Frt			0.850			0.850		0.867			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3725	1615	1805	3762	1615	1787	1633	0	1805	1610	0
Flt Permitted	0.353			0.347			0.186			0.403		
Satd. Flow (perm)	671	3725	1581	659	3762	1615	350	1633	0	766	1610	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		774			344			242			202	
Travel Time (s)		13.2			5.9			5.5			4.6	
Confl. Peds. (#/hr)			1									1
Confl. Bikes (#/hr)												4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	1%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	633	257	226	671	195	89	224	0	182	323	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	22.0		8.0	22.0	
Total Split (s)	15.0	65.0	65.0	20.0	70.0	70.0	10.0	30.0		10.0	30.0	
Total Split (%)	12.0%	52.0%	52.0%	16.0%	56.0%	56.0%	8.0%	24.0%		8.0%	24.0%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effct Green (s)	74.1	62.6	62.6	77.8	64.5	64.5	31.0	24.0		31.0	24.0	
Actuated g/C Ratio	0.59	0.50	0.50	0.62	0.52	0.52	0.25	0.19		0.25	0.19	
w/c Ratio	0.43	0.34	0.32	0.44	0.35	0.23	0.59	0.72		0.77	1.05	
Control Delay	5.9	7.6	8.0	11.9	18.5	17.7	52.2	61.2		62.4	112.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	5.9	7.6	8.0	11.9	18.5	17.7	52.2	61.2		62.4	112.3	
LOS	A	A	A	B	B	B	D	E		E	F	
Approach Delay		7.4			17.0			58.6			94.3	
Approach LOS		A			B			E			F	

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	28	51	39	69	164	85	54	171		117	~283	
Queue Length 95th (ft)	m34	m56	m47	105	207	133	#103	#274		#219	#470	
Internal Link Dist (ft)		694			264			162			122	
Turn Bay Length (ft)	120			200		115						
Base Capacity (vph)	495	1864	791	566	1941	833	150	313		235	309	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.43	0.34	0.32	0.40	0.35	0.23	0.59	0.72		0.77	1.05	

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 6 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 30.8

Intersection LOS: C

Intersection Capacity Utilization 68.9%

ICU Level of Service C

Analysis Period (min): 15

~ Volume exceeds capacity, queue is theoretically infinite.

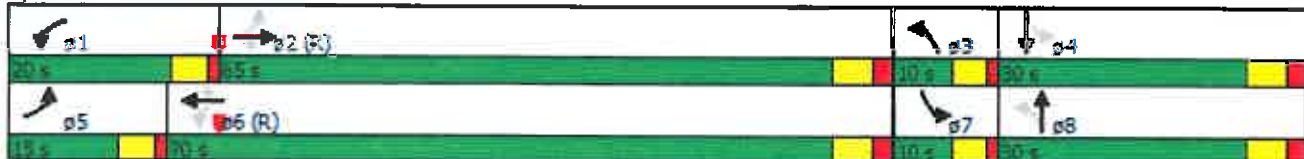
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road








Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WT		TTT		T	TT
Volume (vph)	301	156	1443	234	168	1483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.949		0.979			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	3375	0	4937	0	1805	3689
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	3375	0	4937	0	1805	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		856			1333
Travel Time (s)	15.5		13.0			20.2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	1%	3%	2%	0%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	0	1711	0	171	1513
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	37.0		63.0		25.0	88.0
Total Split (%)	29.5%		50.4%		20.0%	70.4%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	23.7		68.0		16.8	89.3
Actuated g/C Ratio	0.19		0.54		0.13	0.71
v/c Ratio	0.73		0.64		0.70	0.57
Control Delay	54.4		22.6		74.0	6.2
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	54.4		22.6		74.0	6.2
LOS	D		C		E	A
Approach Delay	54.4		22.6			13.1
Approach LOS	D		C			B
Queue Length 50th (ft)	185		339		148	152
Queue Length 95th (ft)	229		473		m188	m173
Internal Link Dist (ft)	604		776			1253

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

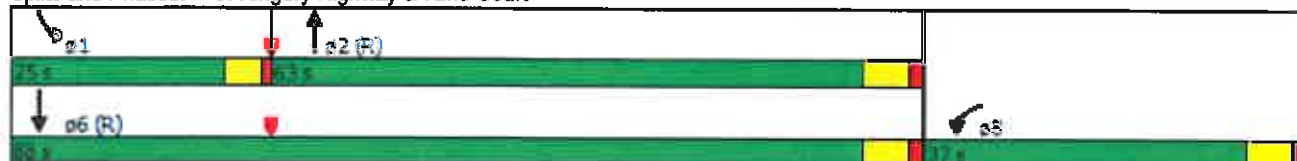
4/9/2015

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	837		2684		301	2636
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.56		0.64		0.57	0.57

Intersection Summary

Area Type: Other
 Cycle Length: 125
 Actuated Cycle Length: 125
 Offset: 59 (47%), Referenced to phase 2 NBT and 6 SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 22.3
 Intersection LOS: C
 Intersection Capacity Utilization: 69.7%
 ICU Level of Service: C
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis 11: Kingery Highway & Service Drive









4/9/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	24	0	28	0	0	24	79	1283	16	79	1893	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	0	29	0	0	25	83	1772	16	83	1993	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLT	
Median storage (veh)											2	
Upstream signal (ft)								969				
pX, platoon unblocked	0.72	0.72		0.72	0.72	0.72				0.72		
vC, conflicting volume	3263	4139	1023	3130	4151	886	2046			1787		
vC1, stage 1 conf vol	2186	2186		1938	1938							
vC2, stage 2 conf vol	1077	1954		1192	2213							
vCu, unblocked vol	3363	4573	1023	3180	4589	81	2046			1326		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	29	100	88	100	100	96	70			78		
cM capacity (veh/h)	36	6	237	39	0	697	279			374		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3		
Volume Total	25	29	25	83	886	886	16	83	1328	718		
Volume Left	25	0	0	83	0	0	0	83	0	0		
Volume Right	0	29	25	0	0	0	16	0	0	54		
cSH	36	237	697	279	1700	1700	1700	374	1700	1700		
Volume to Capacity	0.71	0.12	0.04	0.30	0.52	0.52	0.01	0.22	0.78	0.42		
Queue Length 95th (ft)	62	11	3	30	0	0	0	21	0	0		
Control Delay (s)	230.8	22.4	10.4	23.3	0.0	0.0	0.0	17.3	0.0	0.0		
Lane LOS	F	C	B	C				C				
Approach Delay (s)	118.6		10.4	1.0				0.7				
Approach LOS	F		B									

Intersection Summary												
Average Delay			2.5									
Intersection Capacity Utilization			71.7%		ICU Level of Service				C			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 13: Kingery Highway & Access Drive























4/9/2015

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	102	1675	136	0	1921
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	107	1763	143	0	2022
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.75	0.75			0.75	
vC, conflicting volume	2846	659			1906	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2302	0			1054	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	87			100	
cM capacity (veh/h)	24	816			494	
Direction Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	107	705	705	496	1011	1011
Volume Left	0	0	0	0	0	0
Volume Right	107	0	0	143	0	0
cSH	816	1700	1700	1700	1700	1700
Volume to Capacity	0.13	0.41	0.41	0.29	0.59	0.59
Queue Length 95th (ft)	11	0	0	0	0	0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.1	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		56.4%		ICU Level of Service		B
Analysis Period (min)		15				

Year 2040
Proposed Improvements

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	398	710	22	154	309	148	19	2040	209	372	1116	136
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Ped Bike Factor								1.00				
Frt		0.995				0.850		0.986				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd Flow (prot)	3286	3374	0	3224	3433	1473	1480	4787	0	3367	3519	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd Flow (perm)	3286	3374	0	3224	3433	1473	1480	4787	0	3367	3519	1538
Right Turn on Red			No			No			No			No
Satd Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			660	
Travel Time (s)		13.3			13.2			20.2			10.0	
Confl. Peds. (#/hr)								1				
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	0%	5%	7%	6%	22%	7%	4%	4%	8%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	428	787	0	166	332	159	20	2419	0	400	1200	146
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	13.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	23.5		8.0	23.0	9.0	9.0	22.5		9.0	22.5	8.0
Total Split (s)	21.0	31.0		13.0	23.0	16.0	15.0	80.0		16.0	81.0	21.0
Total Split (%)	15.0%	22.1%		9.3%	16.4%	11.4%	10.7%	57.1%		11.4%	57.9%	15.0%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0		1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5		5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	16.5	23.5		8.5	15.5	34.0	7.5	73.5		11.0	81.4	104.4
Actuated g/C Ratio	0.12	0.17		0.06	0.11	0.24	0.05	0.52		0.08	0.58	0.75
v/c Ratio	1.11	1.39		0.85	0.87	0.45	0.25	0.96		1.52	0.59	0.13
Control Delay	132.8	228.6		114.6	73.4	41.5	86.2	35.1		291.9	21.1	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	132.8	228.6		114.6	73.4	41.5	86.2	35.1		291.9	21.1	6.2
LOS	F	F		F	E	D	F	D		F	C	A
Approach Delay		194.9			76.1			35.5			81.9	
Approach LOS		F			E			D			F	

8/29/2013 A.M. Peak Hour Year 2040 Future Traffic with dual left turn lanes (KLOA)

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEB	SEI	SEB
Queue Length 50th (ft)	-228	-501		82	161	131	20	757		-260	377	38
Queue Length 95th (ft)	#338	#632		#148	#246	205	m32	#865		#368	471	66
Internal Link Dist (ft)		702			694			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	387	566		195	380	357	105	2513		264	2044	1146
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.11	1.39		0.85	0.87	0.45	0.19	0.96		1.52	0.59	0.13

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 27 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.52

Intersection Signal Delay: 85.2

Intersection LOS: F

Intersection Capacity Utilization 99.0%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

























Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NET	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	1134	66	58	525	84	27	12	65	62	9	105
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	180			205			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98	1.00								
Frt			0.850			0.850		0.873			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1568	1770	3654	1615	1736	1659	0	1805	1638	0
Flt Permitted	0.407			0.171			0.609			0.663		
Satd. Flow (perm)	773	3689	1535	318	3654	1615	1113	1659	0	1260	1638	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		774			326			242			202	
Travel Time (s)		13.2			5.6			5.5			4.6	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	3%	3%	2%	4%	0%	4%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1246	73	64	577	92	30	84	0	68	125	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	22.0		8.0	22.0	
Total Split (s)	10.0	89.0	89.0	12.0	91.0	91.0	10.0	29.0		10.0	29.0	
Total Split (%)	7.1%	63.6%	63.6%	8.6%	65.0%	65.0%	7.1%	20.7%		7.1%	20.7%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	100.2	92.9	92.9	99.0	90.7	90.7	23.7	17.8		24.6	19.8	
Actuated g/C Ratio	0.72	0.66	0.66	0.71	0.65	0.65	0.17	0.13		0.18	0.14	
v/c Ratio	0.17	0.51	0.07	0.22	0.24	0.09	0.14	0.40		0.28	0.54	
Control Delay	2.0	4.5	3.3	7.7	11.3	10.6	44.7	61.1		48.4	64.8	
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	2.0	5.0	3.3	7.7	11.3	10.6	44.7	61.1		48.4	64.8	
LOS	A	A	A	A	B	B	D	E		D	E	
Approach Delay		4.7			10.9			56.8			59.0	
Approach LOS		A			B			E			E	
Queue Length 50th (ft)	8	76	8	15	113	31	22	72		52	110	

8/29/2013 A.M. Peak Hour Year 2040 Future Traffic with dual left turn lanes (KLOA)

Synchro 8 Report
Page 3

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m7	m62	m6	33	154	58	49	122		91	172	
Internal Link Dist (ft)		694			246			162			122	
Turn Bay Length (ft)	120			200		115						
Base Capacity (vph)	604	2447	1018	304	2367	1046	213	272		243	274	
Starvation Cap Reductn	0	646	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.17	0.69	0.07	0.21	0.24	0.09	0.14	0.31		0.28	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 112 (80%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 13.2

Intersection LOS: B

Intersection Capacity Utilization 59.4%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road

↖ p1	→ p2 (R)	↖ p3	↓ p4
12 s	59 s	10 s	29 s
↖ p5	← p6 (R)	↖ p7	↑ p8
10 s	51 s	10 s	29 s

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	LT	TH	LT	TH	LT	TH
Volume (vph)	53	46	2286	38	28	1265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Ped Bike Factor	0.99		1.00			
Frt	0.931		0.998			
Flt Protected	0.974				0.950	
Satd. Flow (prot)	3125	0	4836	0	1736	3551
Flt Permitted	0.974				0.950	
Satd. Flow (perm)	3125	0	4836	0	1736	3551
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	4%	9%	7%	8%	4%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	2347	0	28	1278
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		34.0		21.0	105.0
Total Split (%)	25.0%		60.0%		15.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	10.8		109.1		7.8	117.2
Actuated g/C Ratio	0.08		0.78		0.06	0.84
v/c Ratio	0.41		0.62		0.29	0.43
Control Delay	66.3		8.6		63.5	2.7
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	66.3		8.6		63.5	2.7
LOS	E		A		E	A
Approach Delay	66.3		8.6			4.0
Approach LOS	E		A			A

8/29/2013 A.M. Peak Hour Year 2040 Future Traffic with dual left turn lanes (KLOA)

Synchro 8 Report
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Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

	←	↖	↑	↗	↘	↓
Lane Group	WBL	WSR	NET	NBR	SBL	SBT
Queue Length 50th (ft)	45		336		25	121
Queue Length 95th (ft)	75		446		m42	m133
Internal Link Dist (ft)	604		276			1253
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	647		3768		204	2072
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.15		0.62		0.14	0.43

Intersection Summary







Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 32 (23%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 8.5
 Intersection Capacity Utilization: 61.7%
 Analysis Period (min): 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court

























HCM Unsignalized Intersection Capacity Analysis 12: Kingery Highway & Access Drive

4/9/2015

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			
Volume (veh/h)	0	39	2521	65	0	1614
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	41	2654	68	0	1699
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.52	0.52			0.52	
vC, conflicting volume	3537	919			2722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2656	0			1094	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	10	566			331	
Direction Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	41	1061	1061	599	849	849
Volume Left	0	0	0	0	0	0
Volume Right	41	0	0	68	0	0
cSH	566	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.62	0.62	0.35	0.50	0.50
Queue Length 95th (ft)	6	0	0	0	0	0
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	11.9	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay		0.1				
Intersection Capacity Utilization		60.2%		ICU Level of Service		B
Analysis Period (min)		15				























HCM Unsignalized Intersection Capacity Analysis 14: Kingery Highway & 69th Street/Service Drive

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Volume (veh/h)	2	0	5	0	0	7	12	2543	5	37	1609	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Hourly flow rate (vph)	2	0	5	0	0	7	13	2677	5	39	1694	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLT	
Median storage (veh)											2	
Upstream signal (ft)								993				
pX, platoon unblocked	0.49	0.49		0.49	0.49	0.49				0.49		
vC, conflicting volume	3158	4494	862	3633	4504	1338	1723			2682		
vC1, stage 1 conf vol	1786	1786		2703	2703							
vC2, stage 2 conf vol	1372	2708		930	1801							
vCu, unblocked vol	3325	6068	862	4300	6087	0	1723			2347		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	98	100	100	99	96			61		
cM capacity (veh/h)	50	0	299	16	26	528	363			101		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3		
Volume Total	2	5	7	13	1338	1338	5	39	1129	594		
Volume Left	2	0	0	13	0	0	0	39	0	0		
Volume Right	0	5	7	0	0	0	5	0	0	29		
cSH	50	299	528	363	1700	1700	1700	101	1700	1700		
Volume to Capacity	0.04	0.02	0.01	0.04	0.79	0.79	0.00	0.39	0.66	0.35		
Queue Length 95th (ft)	3	1	1	3	0	0	0	39	0	0		
Control Delay (s)	80.5	17.3	11.9	15.3	0.0	0.0	0.0	61.9	0.0	0.0		
Lane LOS	F	C	B	C				F				
Approach Delay (s)	35.4		11.9	0.1				1.4				
Approach LOS	E		B									
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			87.0%		ICU Level of Service				E			
Analysis Period (min)			15									

Lanes, Volumes, Timings
3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	322	667	67	339	820	293	109	1400	207	294	1747	269
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Ped Bike Factor		1.00						1.00				
Frt		0.986				0.850		0.981				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3193	3405	0	3255	3637	1516	1770	4862	0	3467	3689	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3193	3405	0	3255	3637	1516	1770	4862	0	3467	3689	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		684			773			1333			660	
Travel Time (s)		11.7			13.2			20.2			10.0	
Confl. Peds. (#/hr)			2						2			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	1%	0%	4%	1%	3%	2%	5%	1%	1%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	757	0	349	845	302	112	1656	0	303	1801	277
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	25.5	8.5	8.5	46.5		8.5	46.5	8.0
Total Split (s)	13.0	34.0		14.0	35.0	22.0	15.0	70.0		22.0	77.0	13.0
Total Split (%)	9.3%	24.3%		10.0%	25.0%	15.7%	10.7%	50.0%		15.7%	55.0%	9.3%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.0	1.0	2.0		1.0	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	4.5	4.5	6.5		4.5	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	8.5	26.5		9.5	27.5	51.2	10.5	64.8		16.2	70.5	85.5
Actuated g/C Ratio	0.06	0.19		0.07	0.20	0.37	0.08	0.46		0.12	0.50	0.61
v/c Ratio	1.72	1.18		1.59	1.18	0.55	0.85	0.74		0.76	0.97	0.29
Control Delay	381.8	143.1		328.9	136.1	21.2	103.2	27.1		72.5	48.6	13.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	381.8	143.1		328.9	136.1	21.2	103.2	27.1		72.5	48.6	13.8
LOS	F	F		F	F	C	F	C		E	D	B
Approach Delay		215.9			157.9			31.9			47.6	
Approach LOS		F			F			C			D	

8/29/2013 P.M. Peak Hour Year 2040 Future Traffic with dual left turn lanes (KLOA)

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Queue Length 50th (ft)	~228	~432		~239	~472	68	107	257		138	817	113
Queue Length 95th (ft)	#330	#562		#346	#608	98	#219	342		190	#1005	165
Internal Link Dist (ft)		604			693			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	193	644		220	714	668	132	2250		433	1858	967
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.72	1.18		1.59	1.18	0.53	0.65	0.74		0.70	0.97	0.29

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%). Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.72

Intersection Signal Delay: 95.2

Intersection LOS: F

Intersection Capacity Utilization 101.8%

ICU Level of Service G

Analysis Period (min) 15

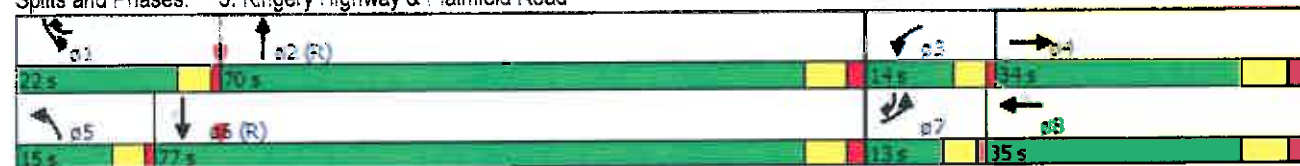
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

























Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	848	165	189	1248	137	52	18	141	124	18	203
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	160			205			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98									
Frt			0.850			0.850		0.867			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3762	1615	1805	3725	1615	1805	1647	0	1805	1608	0
Flt Permitted	0.136			0.256			0.402			0.500		
Satd. Flow (perm)	256	3762	1580	486	3725	1615	764	1647	0	950	1608	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		773			359			242			202	
Travel Time (s)		13.2			6.1			5.5			4.6	
Confl. Bikes (#/hr)			2									
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	151	865	168	193	1273	140	53	162	0	127	225	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	25.0		3.0	25.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	31.0		8.0	31.0	
Total Split (s)	15.0	79.0	79.0	20.0	84.0	84.0	10.0	31.0		10.0	31.0	
Total Split (%)	10.7%	56.4%	56.4%	14.3%	60.0%	60.0%	7.1%	22.1%		7.1%	22.1%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	88.3	77.5	77.5	91.7	79.2	79.2	32.0	25.0		32.9	27.0	
Actuated g/C Ratio	0.63	0.55	0.55	0.66	0.57	0.57	0.23	0.18		0.24	0.19	
v/c Ratio	0.57	0.42	0.19	0.46	0.60	0.15	0.25	0.55		0.50	0.73	
Control Delay	27.1	6.3	6.0	12.0	21.8	15.2	42.8	60.4		50.7	68.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	27.1	6.3	6.0	12.0	21.8	15.2	42.8	60.4		50.7	68.3	
LOS	C	A	A	B	C	B	D	E		D	E	
Approach Delay		8.9			20.0			56.1			62.0	
Approach LOS		A			C			E			E	
Queue Length 50th (ft)	43	75	27	59	389	59	37	136		93	198	

8/29/2013 P.M. Peak Hour Year 2040 Future Traffic with dual left turn lanes (KLOA)

Synchro 8 Report
Page 3

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	m53	m74	m29	90	466	97	74	214		152	#324	
Internal Link Dist (ft)		693			279			162			122	
Turn Bay Length (ft)	120			200		115						
Base Capacity (vph)	278	2082	874	474	2108	913	215	294		256	310	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.54	0.42	0.19	0.41	0.60	0.15	0.25	0.55		0.50	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 133 (95%) Referenced to phase 2 EBTL and 6-WBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 22.8

Intersection LOS: C

Intersection Capacity Utilization 86.2%

ICU Level of Service E

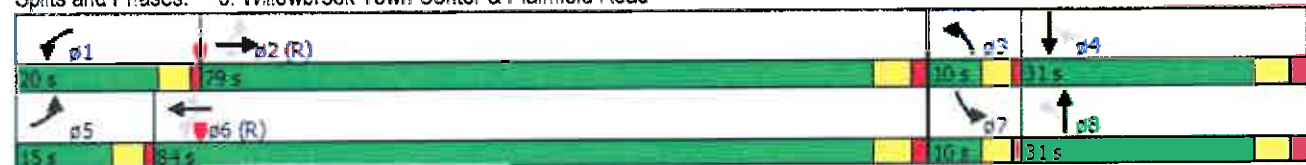
Analysis Period (min): 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	194	88	1577	154	76	1990
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.953		0.987			
Flt Protected	0.967				0.950	
Satd Flow (prot)	3397	0	4897	0	1787	3689
Flt Permitted	0.967				0.950	
Satd Flow (perm)	3397	0	4897	0	1787	3689
Right Turn on Red		No		No		
Satd Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		356			1333
Travel Time (s)	15.5		5.4			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	5%	0%	1%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	291	0	1785	0	78	2052
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	35.0		77.0		28.0	105.0
Total Split (%)	25.0%		55.0%		20.0%	75.0%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	18.2		93.8		11.5	109.8
Actuated g/C Ratio	0.13		0.67		0.08	0.78
v/c Ratio	0.66		0.54		0.53	0.71
Control Delay	65.1		13.5		79.1	2.5
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	65.1		13.5		79.1	2.5
LOS	E		B		E	A
Approach Delay	65.1		13.5			5.3
Approach LOS	E		B			A
Queue Length 50th (ft)	131		287		76	77
Queue Length 95th (ft)	175		395		m73	m72
Internal Link Dist (ft)	604		276			1253

Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	703		3281		299	2893
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.41		0.54		0.26	0.71

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 84 (60%). Referenced to phase 2 NBT and 6 SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 12.9
 Intersection LOS: B
 Intersection Capacity Utilization 70.6%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Kingery Highway & 72nd Court






















HCM Unsignalized Intersection Capacity Analysis 12: Kingery Highway & Access Drive

4/9/2015

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Volume (veh/h)	0	75	1911	104	0	2383
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	79	2012	109	0	2508
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.74	0.74			0.74	
vC, conflicting volume	3321	725			2121	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2899	0			1271	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	9	799			400	
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	79	805	805	512	1254	1254
Volume Left	0	0	0	0	0	0
Volume Right	79	0	0	109	0	0
cSH	799	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.47	0.47	0.30	0.74	0.74
Queue Length 95th (ft)	8	0	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.0	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay		0.2				
Intersection Capacity Utilization		69.2%		ICU Level of Service		C
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis 14: Kingery Highway & Service Drive























4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations												
Volume (veh/h)	8	0	18	0	0	17	36	1940	10	56	2365	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	8	0	19	0	0	18	38	2042	11	59	2439	39
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLT	
Median storage (veh)											2	
Upstream signal (ft)								930				
pX, platoon unblocked	0.70	0.70		0.70	0.70	0.70				0.70		
vC, conflicting volume	3742	4755	1264	3499	4764	1021	2528			2053		
vC1, stage 1 conf vol	2627	2627		2118	2118							
vC2, stage 2 conf vol	1115	2128		1382	2646							
vCu, unblocked vol	4054	5495	1264	3710	5508	187	2528			1653		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	55	100	88	100	100	97	79			78		
cM capacity (veh/h)	19	16	163	38	0	579	180			272		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 3	SB 4	SE 1	SB 2	SB 3		
Volume Total	8	19	18	38	1021	1021	11	59	1660	869		
Volume Left	8	0	0	38	0	0	0	59	0	0		
Volume Right	0	19	18	0	0	0	11	0	0	39		
cSH	19	163	579	180	1700	1700	1700	272	1700	1700		
Volume to Capacity	0.45	0.12	0.03	0.21	0.60	0.60	0.01	0.22	0.98	0.51		
Queue Length 95th (ft)	31	10	2	19	0	0	0	20	0	0		
Control Delay (s)	302.5	29.9	11.4	30.2	0.0	0.0	0.0	21.9	0.0	0.0		
Lane LOS	F	D	B	D				C				
Approach Delay (s)	113.8		11.4	0.5				0.5				
Approach LOS	F		B									
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			76.6%			ICU Level of Service			D			
Analysis Period (min)			15									

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	309	546	102	323	534	279	153	1378	227	382	1343	305
Ideal Flow (vphpl)	1900	1900	1900	1900	2000	1900	1900	1900	1900	1900	2000	1900
Lane Width (ft)	11	11	12	11	11	11	12	12	12	12	12	12
Storage Length (ft)	300		0	332		485	255		0	255		180
Storage Lanes	2		0	2		1	1		0	2		1
Taper Length (ft)	170			194			225			220		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	0.91	0.91	0.97	0.95	1.00
Ped Bike Factor						0.99		1.00				
Frt		0.976				0.850		0.979				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3351	3372	0	3319	3637	1531	1805	4967	0	3467	3725	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3351	3372	0	3319	3637	1509	1805	4967	0	3467	3725	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			45			45	
Link Distance (ft)		782			774			1333			660	
Travel Time (s)		13.3			13.2			20.2			10.0	
Confl. Peds. (#/hr)						2			3			
Confl. Bikes (#/hr)									3			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	2%	1%	2%	0%	2%	2%	1%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	315	661	0	330	545	285	156	1638	0	390	1370	311
Turn Type	Prot	NA		Prot	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases						8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	3.0	15.0		3.0	15.0	3.0	3.0	15.0		3.0	15.0	3.0
Minimum Split (s)	8.0	25.5		8.0	25.5	9.0	9.0	24.5		9.0	24.5	8.0
Total Split (s)	16.0	27.0		16.0	27.0	23.0	19.0	59.0		23.0	63.0	16.0
Total Split (%)	12.8%	21.6%		12.8%	21.6%	18.4%	15.2%	47.2%		18.4%	50.4%	12.8%
Yellow Time (s)	3.5	5.0		3.5	5.0	3.5	3.5	4.5		3.5	4.5	3.5
All-Red Time (s)	1.0	2.5		1.0	2.5	1.5	1.5	2.0		1.5	2.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	7.5		4.5	7.5	5.0	5.0	6.5		5.0	6.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	11.5	19.5		11.5	19.5	39.2	13.4	53.3		17.2	57.1	75.1
Actuated g/C Ratio	0.09	0.16		0.09	0.16	0.31	0.11	0.43		0.14	0.46	0.60
v/c Ratio	1.02	1.26		1.08	0.96	0.60	0.81	0.77		0.82	0.80	0.32
Control Delay	112.7	173.5		122.1	95.1	27.2	75.4	31.8		66.7	33.9	13.6
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	112.7	173.5		122.1	95.1	27.2	75.4	31.8		66.7	33.9	13.6
LOS	F	F		F	F	C	E	C		E	C	B
Approach Delay		153.8			86.1			35.6			37.0	

8/29/2013 Saturday Midday Peak Hour Year 2040 Future Traffic with dual left turns(KLOA)

Synchro 8 Report
Page 1

Lanes, Volumes, Timings

3: Kingery Highway & Plainfield Road

4/9/2015

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	~139	~352		~152	247	131	130	225		158	495	119
Queue Length 95th (ft)	#234	#474		m#221	m#319	m166	m#223	394		#219	591	176
Internal Link Dist (ft)		702			694			1253			580	
Turn Bay Length (ft)	300			332		485	255			255		180
Base Capacity (vph)	308	526		305	567	486	202	2116		499	1702	961
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.02	1.26		1.08	0.96	0.59	0.77	0.77		0.78	0.80	0.32

Intersection Summary

Area Type: Other

Cycle Length 125

Actuated Cycle Length: 125

Offset: 45 (36%), Referenced to phase 2:NBT and 6 SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 65.1

Intersection LOS: E

Intersection Capacity Utilization 90.9%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

























Splits and Phases: 3: Kingery Highway & Plainfield Road



Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	697	244	215	775	185	85	25	188	173	24	283
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	200		115	0		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	160			205			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.98	
Frt			0.850			0.850		0.868			0.862	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3725	1615	1805	3762	1615	1787	1621	0	1805	1610	0
Flt Permitted	0.280			0.294			0.178			0.396		
Satd. Flow (perm)	532	3725	1581	559	3762	1615	335	1621	0	752	1610	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		774			344			242			202	
Travel Time (s)		13.2			5.9			5.5			4.6	
Confl. Peds. (#/hr)			1									1
Confl. Bikes (#/hr)												4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	1%	0%	2%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	214	741	260	229	824	197	90	227	0	184	327	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	15.0	15.0	3.0	15.0	15.0	3.0	15.0		3.0	15.0	
Minimum Split (s)	8.0	22.0	22.0	8.0	22.0	22.0	8.0	22.0		8.0	22.0	
Total Split (s)	15.0	65.0	65.0	20.0	70.0	70.0	10.0	30.0		10.0	30.0	
Total Split (%)	12.0%	52.0%	52.0%	16.0%	56.0%	56.0%	8.0%	24.0%		8.0%	24.0%	
Yellow Time (s)	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.0		3.5	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0		4.5	6.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	
Act Effect Green (s)	74.0	62.5	62.5	77.9	64.5	64.5	31.0	24.0		31.0	24.0	
Actuated g/C Ratio	0.59	0.50	0.50	0.62	0.52	0.52	0.25	0.19		0.25	0.19	
v/c Ratio	0.51	0.40	0.33	0.49	0.42	0.24	0.62	0.73		0.79	1.06	
Control Delay	8.9	7.7	7.8	12.9	19.7	17.8	54.2	62.3		64.6	115.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	8.9	7.7	7.8	12.9	19.7	17.8	54.2	62.3		64.6	115.7	
LOS	A	A	A	B	B	B	D	E		E	F	
Approach Delay		7.9			18.1			60.0			97.3	
Approach LOS		A			B			E			F	

8/29/2013 Saturday Midday Peak Hour Year 2040 Future Traffic with dual left turns(KLOA)

Synchro 8 Report
Page 3

Lanes, Volumes, Timings

6: Willowbrook Town Center & Plainfield Road

4/9/2015

Lane Group	EBL	EBT	ECB	WBL	WBT	WBR	NBL	NBT	NBR	SL	ST
Queue Length 50th (ft)	28	58	39	70	212	85	55	174		119	~290
Queue Length 95th (ft)	m31	m61	m43	107	262	134	#109	#263		#227	#477
Internal Link Dist (ft)		694			264			162			122
Turn Bay Length (ft)	120			200		115					
Base Capacity (vph)	423	1861	790	514	1940	832	146	311		232	309
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0
Reduced v/c Ratio	0.51	0.40	0.33	0.45	0.42	0.24	0.62	0.73		0.79	1.06

Intersection Summary

Area Type: Other

Cycle Length: 126

Actuated Cycle Length: 125

Offset: 6 (5%), Referenced to phase 2 EBT, and 6:WBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 30.7

Intersection LOS: C

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

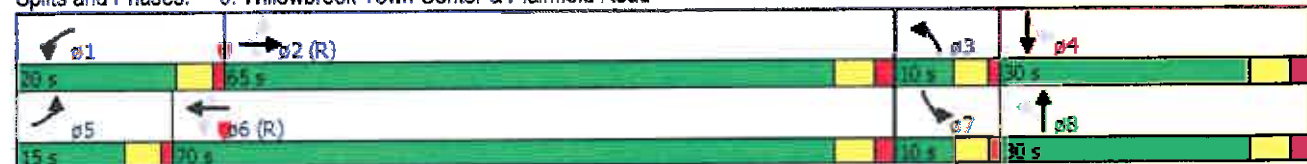
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Willowbrook Town Center & Plainfield Road



Lanes, Volumes, Timings
9: Kingery Highway & 72nd Court

4/9/2015

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TTT		TTT		T	TT
Volume (vph)	301	156	1525	234	168	1608
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	2000
Storage Length (ft)	200	0		0	215	
Storage Lanes	1	0		0	1	
Taper Length (ft)	55				225	
Lane Util. Factor	0.97	0.95	0.91	0.91	1.00	0.95
Frt	0.949		0.980			
Flt Protected	0.968				0.950	
Satd. Flow (prot)	3375	0	4942	0	1805	3689
Flt Permitted	0.968				0.950	
Satd. Flow (perm)	3375	0	4942	0	1805	3689
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		45			45
Link Distance (ft)	684		856			1333
Travel Time (s)	15.5		13.0			20.2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	3%	2%	0%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	471	0	1813	0	173	1658
Turn Type	Prot		NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases						
Detector Phase	8		2		1	6
Switch Phase						
Minimum Initial (s)	8.0		15.0		3.0	15.0
Minimum Split (s)	22.0		22.0		8.5	22.0
Total Split (s)	37.0		63.0		25.0	88.0
Total Split (%)	29.6%		50.4%		20.0%	70.4%
Yellow Time (s)	4.5		4.5		3.5	4.5
All-Red Time (s)	1.5		1.5		1.0	1.5
Lost Time Adjust (s)	0.0		0.0		0.0	0.0
Total Lost Time (s)	6.0		6.0		4.5	6.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		C-Max		None	C-Max
Act Effct Green (s)	23.8		67.8		16.9	89.2
Actuated g/C Ratio	0.19		0.54		0.14	0.71
v/c Ratio	0.73		0.68		0.71	0.63
Control Delay	54.4		23.7		70.5	7.0
Queue Delay	0.0		0.0		0.0	0.0
Total Delay	54.4		23.7		70.5	7.0
LOS	D		C		E	A
Approach Delay	54.4		23.7			13.0
Approach LOS	D		C			B
Queue Length 50th (ft)	187		373		149	191
Queue Length 95th (ft)	231		516		m175	m201
Internal Link Dist (ft)	604		776			1253

Lanes, Volumes, Timings 9: Kingery Highway & 72nd Court

4/9/2015



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Turn Bay Length (ft)	200				215	
Base Capacity (vph)	837		2679		300	2632
Starvation Cap Reductn	0		0		0	0
Spillback Cap Reductn	0		0		0	0
Storage Cap Reductn	0		0		0	0
Reduced v/c Ratio	0.56		0.68		0.58	0.63

Intersection Summary

Area Type: Other

Cycle Length: 125

Actuated Cycle Length: 125

Offset: 59 (47%), Referenced to phase 2 NBT and 6 SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 22.5

Intersection LOS: C

Intersection Capacity Utilization 71.2%

ICU Level of Service C

Analysis Period (min): 15

m Volume for 95th percentile queue is metered by upstream signal.






















Splits and Phases: 9: Kingery Highway & 72nd Court



HCM Unsignalized Intersection Capacity Analysis










11: Kingery Highway & Service Drive

4/9/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	24	0	28	0	0	24	79	1838	15	79	1992	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92
Hourly flow rate (vph)	25	0	29	0	0	25	83	1935	16	83	2097	55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			TWLT	
Median storage (veh)											2	
Upstream signal (ft)								1004				
pX, platoon unblocked	0.70	0.70		0.70	0.70	0.70				0.70		
vC, conflicting volume	3450	4408	1076	3345	4420	967	2152			1951		
vC1, stage 1 conf vol	2291	2291		2101	2101							
vC2, stage 2 conf vol	1159	2117		1244	2319							
vCu, unblocked vol	3641	5006	1076	3492	5023	103	2152			1504		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	10	100	86	100	100	96	66			73		
cM capacity (veh/h)	28	0	215	25	0	654	246			310		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3		
Volume Total	25	29	25	83	967	967	16	83	1398	754		
Volume Left	25	0	0	83	0	0	0	83	0	0		
Volume Right	0	29	25	0	0	0	16	0	0	55		
cSH	28	215	654	246	1700	1700	1700	310	1700	1700		
Volume to Capacity	0.90	0.14	0.04	0.34	0.57	0.57	0.01	0.27	0.82	0.44		
Queue Length 95th (ft)	73	12	3	36	0	0	0	27	0	0		
Control Delay (s)	341.2	24.4	10.7	26.9	0.0	0.0	0.0	20.8	0.0	0.0		
Lane LOS	F	C	B	D				C				
Approach Delay (s)	170.6		10.7	1.1				0.8				
Approach LOS	F		B									
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			74.4%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 13: Kingery Highway & Access Drive

4/9/2015

						
Movement	WBL	WBR	NBT	NBR	SBL	SRT
Lane Configurations						
Volume (veh/h)	0	102	1830	136	0	2020
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	107	1926	143	0	2126
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			660			
pX, platoon unblocked	0.73	0.73			0.73	
vC, conflicting volume	3061	714			2069	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2538	0			1185	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	16	795			429	
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	107	771	771	528	1063	1063
Volume Left	0	0	0	0	0	0
Volume Right	107	0	0	143	0	0
cSH	795	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.45	0.45	0.31	0.63	0.63
Queue Length 95th (ft)	12	0	0	0	0	0
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					
Approach Delay (s)	10.2	0.0			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			59.2%		ICU Level of Service	B
Analysis Period (min)			15			

CMAP Traffic Projections



Chicago Metropolitan Agency for Planning

233 South Wacker Drive
Suite 800
Chicago, Illinois 60606
312 454 0400
www.cmap.illinois.gov

September 9, 2013

Javier Millan
Senior Consultant
Kenig, Lindgren, O'Hare, Aboona, Inc.
9575 West Higgins Road
Suite 400
Rosemont, IL 60018

Subject: IL 83 @ Plainfield Road
IDOT

Dear Mr. Millan:

In response to a request made on your behalf and dated September 3, 2013, we have developed year 2040 average daily traffic (ADT) projections for the subject location.

INTERSECTION	West Leg	North Leg	East Leg	South Leg
IL 83 @ Plainfield Rd	25,000	52,000	30,000	50,000

Please be aware that the Illinois Department of Transportation has prepared a Strategic Regional Arterial (SRA) report for IL 83. Reports include right-of-way, geometric, access, and transit recommendations. The executive summaries can be found at <http://www.cmap.illinois.gov/traffic/sra-resources> with other information about the SRA system.

Traffic projections are developed using existing ADT data provided in the request letter and the results from the April 2013 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2040 socioeconomic projections and assumes the implementation of the GO TO 2040 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call Jose Rodriguez at (312) 386-8806.

Sincerely,

Donald P. Kopec
Deputy Director for Planning and Programming

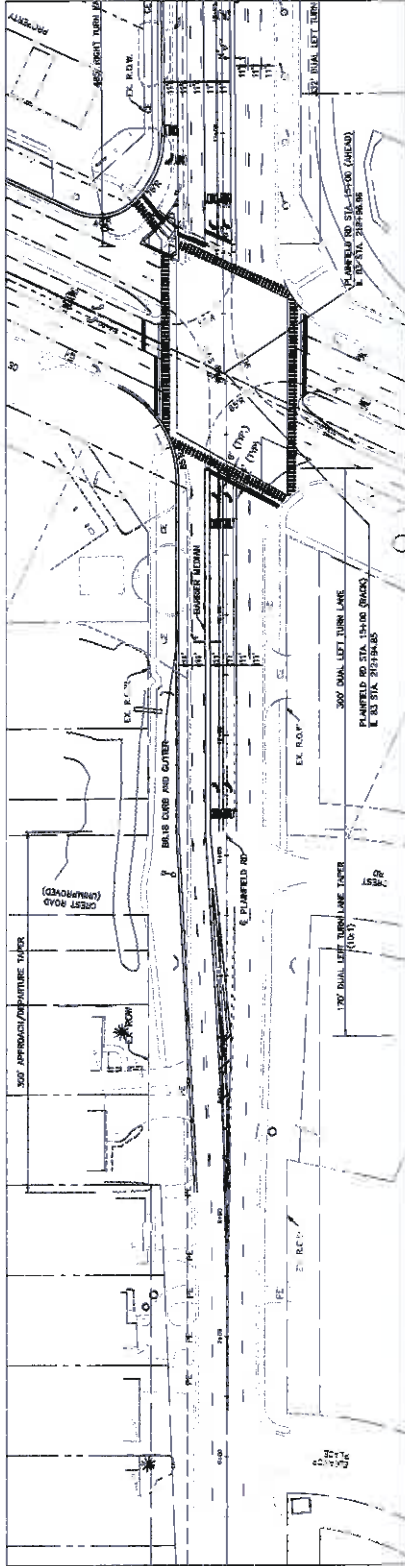
cc: Salley (IDOT)
S:\Projects\CMPSATF_Temp_July2013\2013 Response\du-22-13.docx

DATE	7-22-17
BY	J. L. K. A. K.
CHECKED	J. L. K. A. K.
APPROVED	J. L. K. A. K.
PROJECT	PLAINFIELD ROAD
LOCATION	PLAINFIELD ROAD
SCALE	1" = 40'
PROJECT NO.	17-000
DATE	7-22-17
BY	J. L. K. A. K.
CHECKED	J. L. K. A. K.
APPROVED	J. L. K. A. K.

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Fax: (954) 571-1101
www.manhard.com

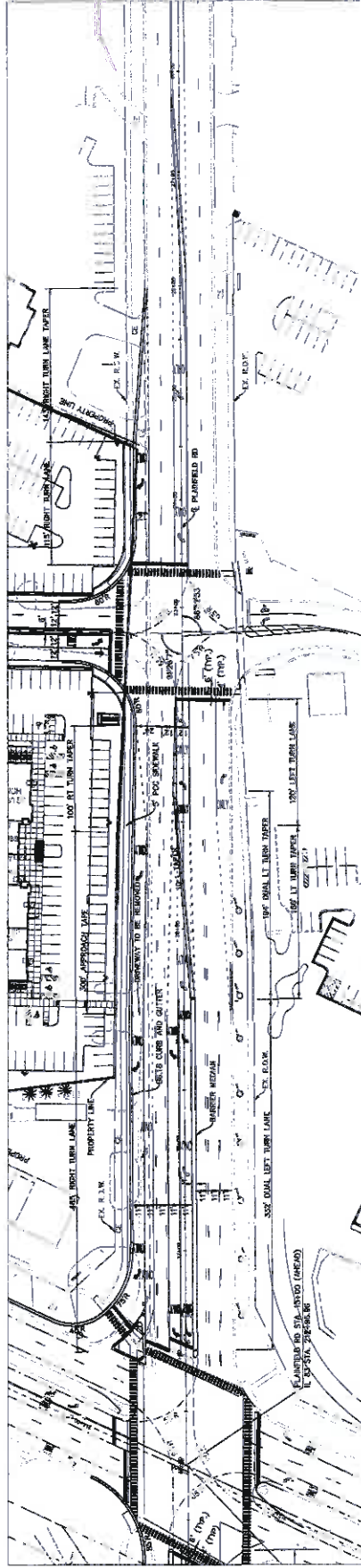
PETES FRESH MARKET
WILLOWBROOK, ILLINOIS
PRELIMINARY GEOMETRICS - IL 83 AND PLAINFIELD ROAD

SHEET	1
OF	4
DATE	7-22-17
BY	J. L. K. A. K.
CHECKED	J. L. K. A. K.
APPROVED	J. L. K. A. K.



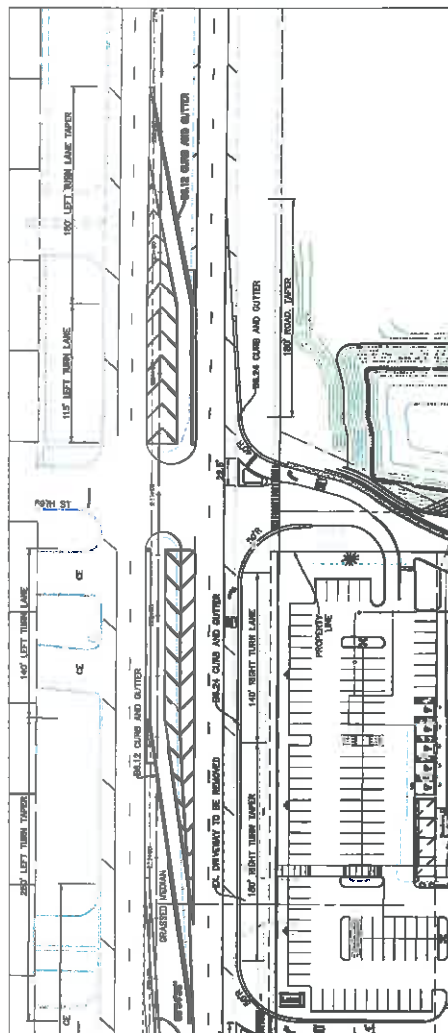
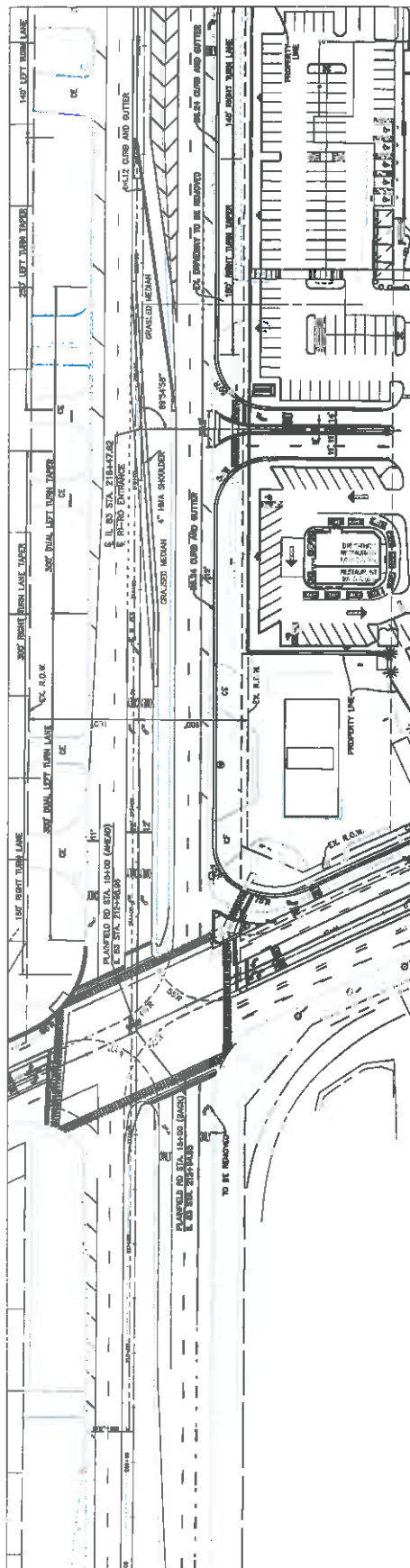
PLAINFIELD ROAD

DuPage County

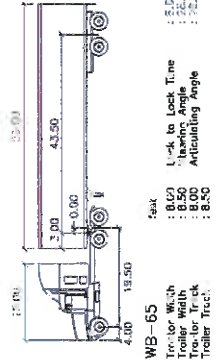
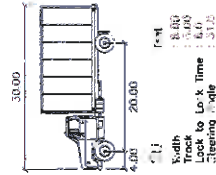
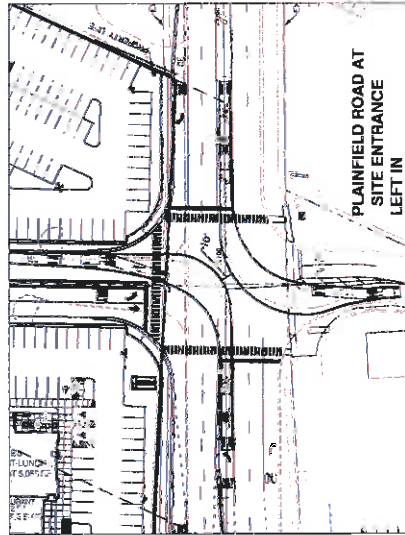
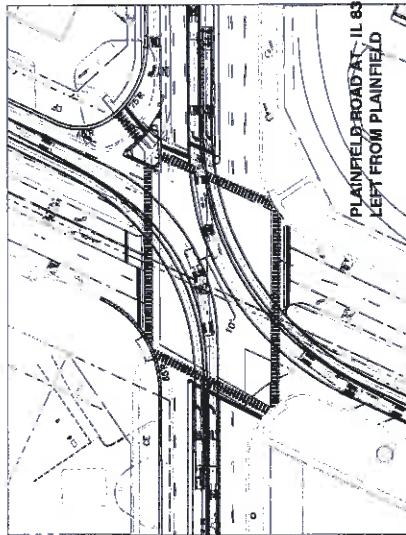
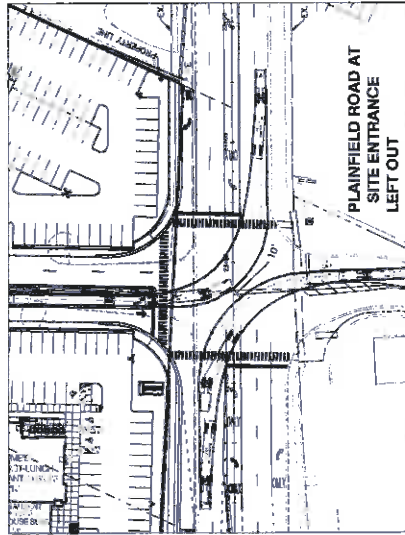
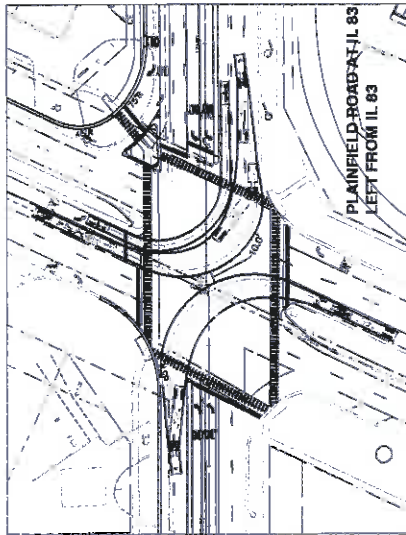
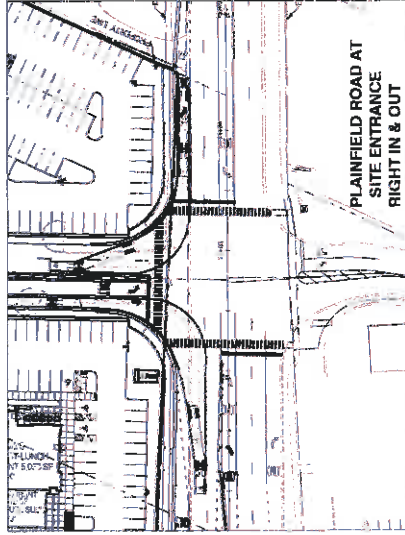
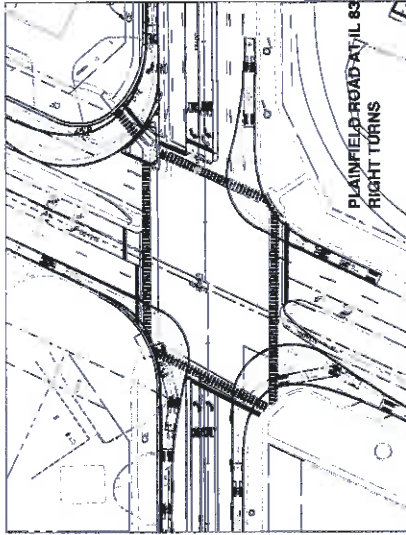


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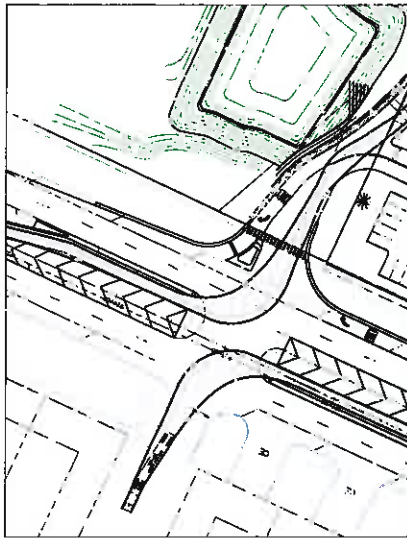
DuPage County

IL 83
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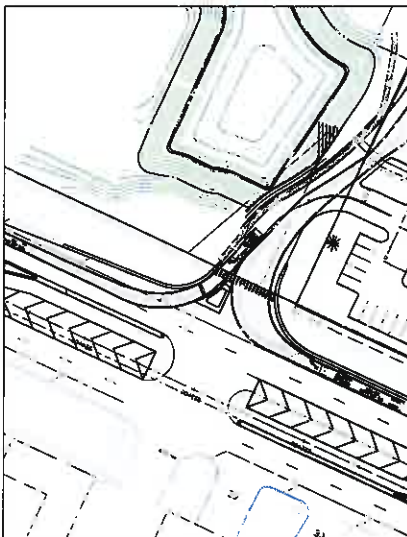
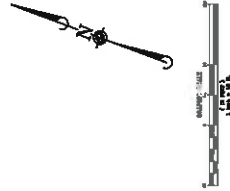
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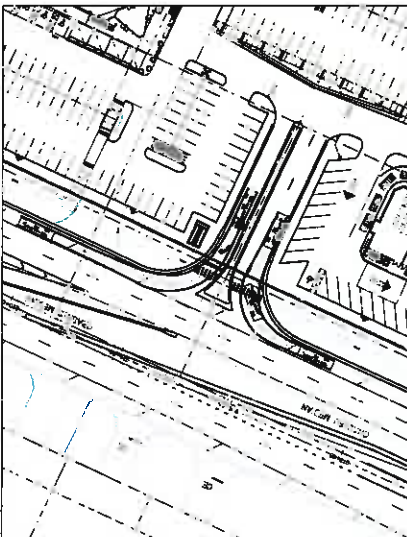
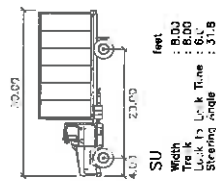
DESIGN VEHICLES



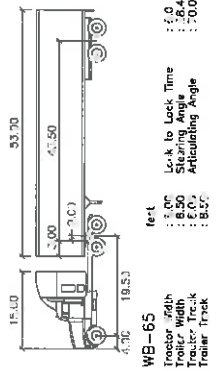
**IL 83 AT TRUCK ENTRANCE
LEFT IN**



**IL 83 AT TRUCK ENTRANCE
RIGHT IN & OUT**



**IL 83 AT SITE ENTRANCE
RIGHT IN & OUT**



DESIGN VEHICLES

**Business District Adoption Schedule
Village of Willowbrook
Route 83/Plainfield Road Business District**

6/9/2016

Business District Act Section 11-74.3-2

Date	Action	Completed By
<p style="text-align: center;">June 27, 2016</p>	<p>By Ordinance, Propose the Approval of a Business District Plan, and Designation of Business District, and fix a time and place for public hearing.</p> <p><i>(a) The corporate authorities of a municipality shall by ordinance propose the approval of a business district plan and designation of a business district and shall fix a time and place for a public hearing on the proposals to approve a business district plan and designate a business district.</i></p>	<p>Village Engineer to provide legal description</p> <p>Ehlers will provide:</p> <ul style="list-style-type: none"> • Redev. Plan (with Legal) • General Description • Map <p>Village Attorney to prepare Ordinance for Village Board Adoption</p>
<p>Appears in newspaper</p> <p>July 1, 2016 (no later than)</p> <p style="text-align: center;">and</p> <p>July 8, 2016</p>	<p>Two Notices by Publication of Public Hearing</p> <p><i>(b) Notice of the public hearing shall be given by publication at least twice, the first publication to be not more than 30 nor less than 10 days prior to the hearing, in a newspaper of general circulation within the municipality. Each notice published pursuant to this Section shall include the following:</i></p> <ol style="list-style-type: none"> <i>(1) The time and place of the public hearing;</i> <i>(2) The boundaries of the proposed business district by legal description and, where possible, by street location;</i> <i>(3) A notification that all interested persons will be given an opportunity to be heard at the public hearing;</i> <i>(4) A description of the business district plan if a business district plan is a subject matter of the public hearing;</i> <i>(5) The rate of any tax to be imposed pursuant to subsection (10) or (11) of Section 11-74.3-3;</i> <i>(6) An invitation for any person to submit alternate proposals or bids for any proposed conveyance, lease, mortgage, or other disposition by the municipality of land or rights in land owned by the municipality and located within the proposed business district; and</i> <i>(7) Such other matters as the municipality shall deem appropriate.</i> 	<p>Village Attorney to prepare notices</p> <p>Village staff to coordinate publication</p>



Date	Action	Completed By
July 11, 2016	<p>Hold Public Hearing.</p> <p><i>(c) At the public hearing any interested person may file written objections with the municipal clerk and may be heard orally with respect to any matters embodied in the notice. The municipality shall hear and determine all alternate proposals or bids for any proposed conveyance, lease, mortgage, or other disposition by the municipality of land or rights in land owned by the municipality and located within the proposed business district and all protests and objections at the hearing, provided, however, that the corporate authorities of the municipality may establish reasonable rules regarding the length of time provided to members of the general public. The hearing may be adjourned to another date without further notice other than a motion to be entered upon the minutes fixing the time and place of the adjourned hearing. Public hearings with regard to approval of a business district plan or designation of a business district may be held simultaneously.</i></p>	<p>Village Board</p> <p>Ehlers to make presentation at public hearing</p>
July 11, 2016	<p>Business District Adoption</p> <p><i>(e) By ordinance adopted within 90 days of the final adjournment of the public hearing a municipality may approve the business district plan and designate the business district. Any ordinance adopted which approves a business district plan shall contain findings that the business district on the whole has not been subject to growth and development through investment by private enterprises and would not reasonably be anticipated to be developed or redeveloped without the adoption of the business district plan. Any ordinance adopted which designates a business district shall contain the boundaries of such business district by legal description and, where possible, by street location, a finding that the business district plan conforms to the comprehensive plan for the development of the municipality as a whole, or, for municipalities with a population of 100,000 or more, regardless of when the business district plan was approved, the business district plan either</i></p> <ul style="list-style-type: none"> <i>(i) conforms to the strategic economic development or redevelopment plan issued by the designated planning authority or the municipality or</i> <i>(ii) includes land uses that have been approved by the planning commission of the municipality, and, for any business district in which the municipality intends to impose taxes as provided in subsection (10) or (11) of Section 11-74.3-3, a specific finding that the business district qualifies as a blighted area as defined in Section 11-74.3-5.</i> 	<p>Village Attorney to provide ordinances</p>

Date	Action	Completed By
Prior to October 1, 2016	File Business District Documents with Illinois Department of Revenue. File the ordinance enacting a Business District sales tax and all additional required information by: <ul style="list-style-type: none">• October 1 for administration and enforcement of the tax beginning the following January; or• April 1 for administration and enforcement of the tax beginning the following July 1. Go online to: http://tax.illinois.gov/LocalGovernment/ See "Distribution Information/Business District Development and Redevelopment Sales Tax."	Village staff and Ehlers

ORDINANCE NO. 16-O-_____

**AN ORDINANCE PROPOSING A BUSINESS DISTRICT PLAN
AND THE DESIGNATION OF THE ROUTE 83/PLAINFIELD ROAD BUSINESS
DISTRICT AND CALLING A PUBLIC HEARING IN CONNECTION THEREWITH**

WHEREAS, pursuant to the Business District Development and Redevelopment Law, as supplemented and amended [65 ILCS 5/11-74.3-1 et. seq.(2014 State Bar Ed.)] ("Act"), the Village of Willowbrook, DuPage County, Illinois, ("Village") is authorized to approve a business district plan and to designate a business district; and

WHEREAS, the Mayor and Board of Trustees of the Village ("Corporate Authorities") have heretofore caused a study to be conducted to determine the conditions in that part of the Village legally described in Exhibit A attached hereto and made a part hereof and generally described as a contiguous area generally bounded by 69th Street on the north, 72nd Court on the south, Illinois Route 83 on the west and Adams Street and Willowway Lane on the east and includes the adjoining rights of way, and depicted in Exhibit A-1, attached hereto and made a part hereof; and

WHEREAS, the Corporate Authorities have determined that said territory would qualify as a "business district" as defined in the Act and that said territory on the whole has not been subject to growth and development through investment by private

enterprises and would not reasonably be anticipated to be developed or redeveloped without the adoption of a business district plan; and

WHEREAS, the Corporate Authorities have heretofore and it hereby is determined that it is advisable that the Village afford itself of the provisions of the Act and by ordinance approve a business district plan (the "Business District Plan") and designate the territory as legally described in Exhibit A as a business district to be known as the "Route 83/Plainfield Road Business District" (the "Business District"); and

WHEREAS, the Act requires the Village to conduct a public hearing prior to the adoption of ordinances approving the Business District Plan and designating the Business District, at which hearing any interested person may file written objections with the Village Clerk and may be heard orally with respect to the proposed approval of the Business District Plan, the designation of the Business District, and any other matters embodied in the notice of public hearing; and

WHEREAS, the Act further requires that the time and place of such public hearing be fixed by ordinance adopted by the Corporate Authorities; and

WHEREAS, the firm of Ehlers has conducted an eligibility survey of the proposed Business District and has concluded that the Business District qualifies as a "business district" and

"blighted area" as defined in the Act, which survey and findings are included in the Business District Plan and have been presented to the Corporate Authorities and are now on file in the official files and records of the Village; and

WHEREAS, the Act requires that notice of the public hearing be given by publication.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Board of Trustees of the Village of Willowbrook, DuPage County, Illinois as follows:

Section 1. That the foregoing recital clauses to this Ordinance are adopted as findings of the Corporate Authorities of the Village of Willowbrook and are incorporated herein by specific reference.

Section 2. The approval of the Business District Plan and the designation of the Business District are hereby proposed.

Section 3. A public hearing shall be held by the Mayor and Board of Trustees of the Village of Willowbrook, at 6:30 p.m. on the 11th day of July, 2016, at the Burr Ridge Police Department Training Room, 7700 County Line Road, Burr Ridge, Illinois, for the purpose of hearing from any interested persons regarding the proposed approval of the Business District Plan, the designation of the Business District, and any other matters embodied in the notice of public hearing.

Section 4. Notice of public hearing, substantially in the form attached hereto and made a part hereof as Exhibit B, shall be published at least twice in a newspaper of general circulation within the Village, the publications to be not more than 30 nor less than 10 days prior to the public hearing.

Section 5. Since June 17, 2016, a draft of the Business District Plan has been on file in the Office of the Village Clerk at the Willowbrook Village Hall, 835 Midway Drive, Willowbrook, Illinois, 60527, and since such date has been available for public inspection.

Section 6. If any provision of this Ordinance shall be held to be invalid or unenforceable for any reason, the invalidity or unenforceability of such provision shall not affect any of the remaining provisions of this Ordinance. All ordinances, resolutions or other pieces of legislation adopted by the Village in conflict with this Ordinance are hereby repealed to the extent of such conflict.

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Section 7. This Ordinance shall be in full force and effect upon its passage and approval in accordance with law.

PASSED and APPROVED this 27th day of June, 2016, by a roll call vote as follows:

ROLL CALL VOTE: AYES: _____
 NAYS: _____
 ABSTENTIONS: _____
 ABSENT: _____

APPROVED:

Mayor

ATTEST:

Village Clerk

EXHIBIT A

**Proposed Route 83/Plainfield Road Business District -
Legal Description**

LEGAL DESCRIPTION (ROUTE 83\PLAINFIELD ROAD BUSINESS DISTRICT):

THAT PART OF THE SOUTH HALF OF SECTION 23 AND THE NORTH HALF OF SECTION 26 TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN IN DUPAGE COUNTY, ILLINOIS, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST EASTERLY SOUTHEAST CORNER OF LOT 1 IN PERSEVERANCE SUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23 AND THE NORTHEAST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 30, 2007 AS DOCUMENT NO. R2007-141528; THENCE NORTHERLY, WESTERLY, NORTHERLY, EASTERLY AND NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 1 IN WILLOWBROOK CENTER UNIT NO. 1, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 16, 1963 AS DOCUMENT NO. R63-37895; THENCE EASTERLY ALONG SAID SOUTH LINE TO THE SOUTHEAST CORNER OF SAID LOT 1; THENCE NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 2 IN LENZ'S ASSESSMENT PLAT, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JULY 5, 1955 AS DOCUMENT NO. 763597; THENCE EASTERLY ALONG SAID SOUTH LINE AND ALONG THE EASTERLY EXTENSION THEREOF TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ADAMS STREET; THENCE NORTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD; THENCE SOUTHWESTERLY ALONG SAID NORTHERLY RIGHT-OF-WAY LINE TO THE SOUTHWESTERLY CORNER OF LOT 1 IN 1ST BURLINGTON BANK, WILLOWBROOK RESUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 23, 1986 AS DOCUMENT NO. R86-115152; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 1 AND ALONG THE NORTHERLY EXTENSION THEREOF TO A POINT ON THE NORTH RIGHT-OF-WAY LINE OF 69TH STREET; THENCE WESTERLY ALONG SAID NORTH RIGHT-OF-WAY LINE TO THE SOUTHWEST CORNER OF LOT 14 IN SCHILLER'S ADDITION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JUNE 14, 1950 AS DOCUMENT NO. 595530; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 14 TO THE SOUTHWEST CORNER OF LOT 12 IN WEST TOWN DEVELOPMENT COMPANY'S RESUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JULY 22, 1955 AS DOCUMENT NO. 766039; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 12

AND ALONG THE WEST LINE OF LOT 13 IN SAID WEST TOWN DEVELOPMENT COMPANY'S RESUBDIVISION TO THE NORTHEAST CORNER OF PARCEL 1 IN WILLOWBROOK OFFICE PARK LOT 12 ASSESSMENT PLAT, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 8, 2005 AS DOCUMENT NO. R2005-197465; THENCE WESTERLY, SOUTHERLY, SOUTHWESTERLY AND WESTERLY ALONG THE NORTH LINE OF SAID PARCEL 1 115.50 FEET (MORE OR LESS) TO A POINT ON THE NORTHEASTERLY LINE OF A PERMANENT EASEMENT (AS SHOWN ON AN EASEMENT EXHIBIT PREPARED BY MANHARD CONSULTING, LTD AND DATED JUNE 9, 2016); THENCE NORTHWESTERLY ALONG SAID NORTHEASTERLY PERMANENT EASEMENT LINE TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ILLINOIS ROUTE 83; THENCE NORTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE TO A POINT OF INTERSECTION WITH THE EASTERLY EXTENSION OF THE NORTH LINE OF LOT 15 IN BLOCK 35 IN TRI STATE VILLAGE UNIT NO. 5, BEING A SUBDIVISION IN THE SOUTHWEST QUARTER OF SAID SECTION 23 AND THE NORTHWEST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 20, 1944 AS DOCUMENT NO. 465114; THENCE WESTERLY ALONG SAID EASTERLY EXTENSION TO A POINT ON THE WEST RIGHT-OF-WAY LINE OF SAID ILLINOIS ROUTE 83; THENCE SOUTHERLY ALONG SAID WEST RIGHT-OF-WAY LINE TO A POINT OF INTERSECTION WITH THE WESTERLY EXTENSION OF THE SOUTH RIGHT-OF-WAY LINE OF 72ND COURT; THENCE EASTERLY ALONG SAID WESTERLY EXTENSION TO A POINT OF INTERSECTION WITH SAID EAST RIGHT-OF-WAY LINE OF ILLINOIS ROUTE 83; THENCE EASTERLY, SOUTHERLY AND EASTERLY ALONG SAID SOUTH RIGHT-OF-WAY LINE OF 72ND COURT TO A POINT ON THE EAST LINE OF LOT 6 IN HINSDALE HIGHLAND ESTATES, BEING A SUBDIVISION IN THE NORTHEAST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 23, 1954 AS DOCUMENT NO. 720969; THENCE NORTHERLY ALONG SAID EAST LINE EXTENDED NORTHERLY TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL (P.I.N. 09-23-405-019):

THAT PART OF LOT 4 WHICH LIES EAST OF THE EAST LINE OF ILLINOIS ROUTE 83 AND NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952 AND WHICH LIES SOUTH OF A LINE DRAWN PERPENDICULAR TO THE EAST LINE OF SAID ILLINOIS ROUTE 83 TO A POINT WHICH IS 298.40 FEET NORTH OF THE CENTER LINE OF PLAINFIELD ROAD (MEASURED ALONG THE EAST LINE OF SAID ROUTE 83), ALSO, THAT PART OF LOT 3 WHICH LIES NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952, AND WHICH LIES SOUTHERLY OF A LINE DRAWN FROM A POINT IN THE WEST LINE OF SAID LOT 3, SAID POINT BEING 138.94 FEET NORTH OF THE NORTH LINE OF

SAID PLAINFIELD ROAD (MEASURED ALONG SAID WEST LINE OF LOT 3) TO A POINT IN THE NORTHERLY LINE OF SAID PLAINFIELD ROAD, SAID LOTS 3 AND 4 BEING IN OWNER'S SUBDIVISION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 23, AND THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, ALL IN TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED APRIL 24, 1931 AS DOCUMENT NO. 311500, IN DUPAGE COUNTY, ILLINOIS.

Proposed Route 83/Plainfield Road Business District - Map



EXHIBIT B
Notice of Public Hearing

VILLAGE OF WILLOWBROOK, DUPAGE COUNTY, ILLINOIS
ROUTE 83/PLAINFIELD ROAD BUSINESS DISTRICT

Notice is hereby given that on July 11, 2016 at 6:30 p.m. at the Burr Ridge Police Department Training Room, 7700 County Line Road, Burr Ridge, Illinois, a public hearing will be held to consider the proposal to approve a business district plan (the "Business District Plan") and the designation of a business district to be known as the Route 83/Plainfield Road Business District (the "Business District"). The Business District consists of the territory legally described as follows:

THAT PART OF THE SOUTH HALF OF SECTION 23 AND THE NORTH HALF OF SECTION 26 TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN IN DUPAGE COUNTY, ILLINOIS, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST EASTERLY SOUTHEAST CORNER OF LOT 1 IN PERSEVERANCE SUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23 AND THE NORTHEAST QUARTER OF SAID SECTION 26, ACCORDING TO THE PLAT THEREOF RECORDED JULY 30, 2007 AS DOCUMENT NO. R2007-141528; THENCE NORTHERLY, WESTERLY, NORTHERLY, EASTERLY AND NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 1 IN WILLOWBROOK CENTER UNIT NO. 1, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED OCTOBER 16, 1963 AS DOCUMENT NO. R63-37895; THENCE EASTERLY ALONG SAID SOUTH LINE TO THE SOUTHEAST CORNER OF SAID LOT 1; THENCE NORTHERLY ALONG THE EAST LINE OF SAID LOT 1 TO A POINT ON THE SOUTH LINE OF LOT 2 IN LENZ'S ASSESSMENT PLAT, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED JULY 5, 1955 AS DOCUMENT NO. 763597; THENCE EASTERLY ALONG SAID SOUTH LINE AND ALONG THE EASTERLY EXTENSION THEREOF TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF ADAMS STREET; THENCE NORTHERLY ALONG SAID EAST RIGHT-OF-WAY LINE TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD; THENCE SOUTHWESTERLY ALONG SAID NORTHERLY RIGHT-OF-WAY LINE TO THE SOUTHWESTERLY CORNER OF LOT 1 IN 1ST BURLINGTON BANK, WILLOWBROOK RESUBDIVISION, BEING A SUBDIVISION IN THE SOUTHEAST QUARTER OF SAID SECTION 23, ACCORDING TO THE PLAT THEREOF RECORDED SEPTEMBER 23, 1986 AS DOCUMENT NO. R86-115152; THENCE NORTHERLY ALONG THE WEST LINE OF SAID LOT 1 AND ALONG THE NORTHERLY EXTENSION THEREOF TO A POINT ON THE NORTH

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EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCEL (P.I.N. 09-23-405-019):

THAT PART OF LOT 4 WHICH LIES EAST OF THE EAST LINE OF ILLINOIS ROUTE 83 AND NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF

PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952 AND WHICH LIES SOUTH OF A LINE DRAWN PERPENDICULAR TO THE EAST LINE OF SAID ILLINOIS ROUTE 83 TO A POINT WHICH IS 298.40 FEET NORTH OF THE CENTER LINE OF PLAINFIELD ROAD (MEASURED ALONG THE EAST LINE OF SAID ROUTE 83), ALSO, THAT PART OF LOT 3 WHICH LIES NORTHERLY OF THE NORTHERLY RIGHT-OF-WAY LINE OF PLAINFIELD ROAD AS PER PLAT OF DEDICATION RECORDED JUNE 27, 1961 AS DOCUMENT NO. R61-11952, AND WHICH LIES SOUTHERLY OF A LINE DRAWN FROM A POINT IN THE WEST LINE OF SAID LOT 3, SAID POINT BEING 138.94 FEET NORTH OF THE NORTH LINE OF SAID PLAINFIELD ROAD (MEASURED ALONG SAID WEST LINE OF LOT 3) TO A POINT IN THE NORTHERLY LINE OF SAID PLAINFIELD ROAD, SAID LOTS 3 AND 4 BEING IN OWNER'S SUBDIVISION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 23, AND THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 26, ALL IN TOWNSHIP 38 NORTH, RANGE 11 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED APRIL 24, 1931 AS DOCUMENT NO. 311500, IN DUPAGE COUNTY, ILLINOIS.

The boundaries of the Business District are generally described as a contiguous area generally bounded by 69th Street on the north, 72nd Court on the south, Illinois Route 83 on the west and Adams Street and Willowway Lane on the east and includes the adjoining rights of way.

There will be considered at the public hearing the Business District Plan and the designation of the Business District. The Business District Plan as proposed is on file and available for public inspection at the office of the Village Clerk, 835 Midway Drive, Willowbrook, Illinois. The proposed Business District Plan includes the following Village goals: to provide for the economic development of Village properties; to continue to maintain a strong regional retail presence; to maintain Village competitiveness in the marketplace; to strengthen the property tax base and sales tax base of the Village; and to create new jobs and retain existing jobs for the Village and area residents. The proposed Business District Plan includes the following Village objectives: to enhance the environment within the Business District to contribute more positively to the health, safety and general welfare of the Village and surrounding communities; strengthen the economic well-being of the Business District and the Village by increasing business activity and improving the tax base of the Village and other local governments having overlapping jurisdiction in the Business District; maintain, improve, and construct public and private infrastructure and roadway improvements to encourage and support private investment; improve public and traffic safety

conditions for motorists, pedestrians and bicyclists; stimulate private investment in new construction and redevelopment so as to maintain a strong regional retail presence; create new job opportunities and retain existing jobs for residents and non-residents of the Village; improve the visual attractiveness of the Business District and the Village through attractive and high-quality design, site improvements, landscaping, and public areas; and reduce or eliminate the factors that qualified the Business District as a "blighted area". The proposed Business District Plan provides the Village with certain powers including, but not limited to, to enter into all contracts necessary or incidental to the implementation and furtherance of the Business District Plan; within the Business District, to acquire by purchase, donation, lease or eminent domain, and to own, convey, lease, mortgage, or dispose of land; to clear any area within the Business District by demolition or removal of existing buildings and structures; to install, repair, construct, reconstruct or relocate public streets, public utilities, and other public site improvements within or without the Business District; to renovate, rehabilitate, relocate, repair or remodel any existing buildings or structures within the Business District; to construct public improvements; to fix, charge and collect fees and rents and charges for the use of any building, facility or property owned or leased by the Village within the Business District; to pay or cause to be paid business district project costs as set forth in the Business District Development and Redevelopment Law [65 ILCS 5/11-74.3-1 et seq. (2014 State Bar Ed.)] (the "Act"); to apply for and accept grants, guarantees, donations of property or labor in connection with a Business District project; to impose a retailers' occupation tax and a service occupation tax within the Business District; and to impose a hotel operators' occupation tax within the Business District. The proposed Business District Plan includes a budget as set forth therein. Pursuant to the Business District Plan, the Village may impose a retailers' occupation tax at a rate of up to one percent (1%) on gross sales within the Business District and impose a service occupation tax at a rate of up to one percent (1%) on gross sales within the Business District, said taxes to be imposed for the term of the Business District.

Any person may submit alternate proposals or bids for any proposed conveyance, lease, mortgage, or other disposition by the Village of land or rights in land owned by the Village and located within the Business District.

Prior to the date of the public hearing, any interested person may submit written comments to the Village, to the attention of the Village Clerk, 835 Midway Drive, Willowbrook, Illinois, 60527 regarding the approval of the Business District Plan, the designation of the Business District, or any other matter embodied in this notice.

At the public hearing, all interested persons may file written objections with the Village Clerk and will be given an opportunity to be heard orally with respect to any issues regarding the approval of the Business District Plan, the designation of the Business District and any other matter embodied in this notice. The hearing may be adjourned to another date by the Village Mayor and Board of Trustees without further notice other than a motion to be entered upon the minutes fixing the time and place of the adjourned hearing.

Dated this _____, 2016

/s/ Leroy Hansen
Village Clerk
Village of Willowbrook

VILLAGE OF WILLOWBROOK

BOARD MEETING AGENDA ITEM - HISTORY/COMMENTARY

ITEM TITLE:

A RESOLUTION AUTHORIZING THE MAYOR AND VILLAGE CLERK OF THE VILLAGE OF WILLOWBROOK TO ENTER INTO AN AT-RISK CONSTRUCTION AGREEMENT WITH PULTE HOME CORPORATION TO BEGIN DEMOLITION, MASS GRADING AND INSTALLATION OF STORM IMPROVEMENTS (HEREINAFTER CUMULATIVELY REFERENCED AS "AT RISK CONSTRUCTION")— 6256 CLARENDON HILLS ROAD – CARRINGTON CLUB BY PULTE (REDEVELOPMENT OF ARABIAN KNIGHTS HORSE FARM)

AGENDA NO.**8****AGENDA DATE:** 06/27/16**STAFF REVIEW:** Anna Franco, Planning Consultant**SIGNATURE:** Anna Franco / eo**LEGAL REVIEW:** Tom Bastian, Village Attorney**SIGNATURE:** Tom Bastian / eo**RECOMMENDED BY:** Tim Halik, Village Administrator**SIGNATURE:** Timothy Halik / eo**REVIEWED & APPROVED BY COMMITTEE:** YES ☐ NO ☐ N/A ☒**ITEM HISTORY (PREVIOUS VILLAGE BOARD REVIEWS, ACTIONS RELATED TO THIS ITEM, OTHER PERTINENT HISTORY)**

On June 13, 2016, the Village Board voted approval of the Carrington Preliminary PUD and Preliminary Plat for the property at 6256 Clarendon Hills Road. The approval granted the zoning approval, but requires the applicant (Pulte Home Corporation) to come back with final (more detailed) plans for review by the Plan Commission and approval by the Village Board. The Village Board received the Plan Commission's recommendation and full staff report for the Carrington Club Preliminary PUD and Preliminary Plat at the regular May 23rd, 2016 meeting.

ITEM COMMENTARY (BACKGROUND, DISCUSSION, RECOMMENDATIONS, ETC.)

In an effort to meet internal deadlines, the applicant seeks to proceed with the demolition of existing buildings, mass grading, and installation of limited storm sewer improvements on the subject property PRIOR to Village approval of final plans for the subject property. The Village will be allowing the early earthwork on the property, subject to the approval of an At-Risk Construction Agreement between the Village of Willowbrook and Pulte Home Corporation.

The At-Risk Construction Agreement defines the improvements to be pursued as "at the risk" of the developer, since final plan approval cannot be guaranteed. The agreement will require an irrevocable letter of credit in the amount equal to one hundred twenty-five percent (125%) of the approved engineer's estimate of the cost of the required public improvements for the property as specified in the "Engineer's Preliminary Opinion of Probable Construction Cost" that are based on the "At Risk Construction Final Engineering Plans for Carrington Club."

The applicant is also expected to secure the appropriate permits prior to beginning any construction on the property. This will include a permit for demolition and a permit for mass grading from the Village, as well as any necessary permits from DuPage County. No building permits for the construction of any home shall be issued until the Final Plats of Subdivision and PUD for the subject property have been fully executed and recorded in the Office of the DuPage County Recorder of Deeds.

ACTION PROPOSED:

Consideration of Attached Resolution.

RESOLUTION 16-R-_____

A RESOLUTION AUTHORIZING THE MAYOR AND VILLAGE CLERK OF THE VILLAGE OF WILLOWBROOK TO ENTER INTO AN AT-RISK CONSTRUCTION AGREEMENT WITH PULTE HOME CORPORATION TO BEGIN DEMOLITION, MASS GRADING AND INSTALLATION OF STORM IMPROVEMENTS (HEREINAFTER CUMULATIVELY REFERENCED AS "AT RISK CONSTRUCTION")- 6256 CLARENDON HILLS ROAD - CARRINGTON CLUB BY PULTE (REDEVELOPMENT OF ARABIAN KNIGHTS HORSE FARM)

WHEREAS, on or about January 21, 2016, Pulte Home Corporation, as applicant ("APPLICANT"), with permission from Willowbrook Real Estate Investment, LLC (Parcel 1) and North Star Trust Company (Parcel 2), as owners ("OWNER") through agents Michael and Elizabeth Vena, filed an application with the Village of Willowbrook with respect to the property legally described on Exhibit "A", attached hereto and incorporated herein by reference ("SUBJECT REALTY"); and

WHEREAS, for the purposes of this Agreement, the DEVELOPER desires to enter into an At-Risk Construction Agreement to begin demolition, mass grading and installation of storm improvements attached hereto and incorporated herein as Exhibit "B," before recording the Final Plat of Subdivision, and seeks to proceed with said construction based upon plans entitled "At Risk Construction Final Engineering Plans for Carrington Club," and

WHEREAS, a Public Hearing has heretofore been held, as required by law, all appropriate notices having been given; and

WHEREAS, the Mayor and Board of Trustees have considered the terms and provisions of the proposed At-Risk Construction Agreement; and

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Trustees of the Village of Willowbrook, DuPage County, Illinois, that the Mayor and Village Clerk be and the same are hereby authorized to execute that certain At-Risk Construction Agreement substantially in the form heretofore incorporated herein as Exhibit "B", with such changes as are approved by the Village Attorney, by and on behalf of the Village of Willowbrook.

ADOPTED and APPROVED this 27th day of June, 2016.

APPROVED:

Mayor

ATTEST:

Village Clerk

ROLL CALL VOTE: AYES: _____

NAYS: _____

ABSTENTIONS: _____

ABSENT: _____

EXHIBIT "A"

LEGAL DESCRIPTION OF SUBJECT REALTY

PARCEL 1: THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 22, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN IN DUPAGE COUNTY, ILLINOIS.

PARCEL 2: THE NORTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER (EXCEPT THE NORTH 145.0 FEET OF THE EAST 261.0 FEET) OF SECTION 22, TOWNSHIP 38 NORTH, RANGE 11, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN DUPAGE COUNTY, ILLINOIS.

PINS: 09-22-207-003 and 09-22-207-001

ADDRESS: 6526 Clarendon Hills Road

EXHIBIT "B"

AT-RISK CONSTRUCTION AGREEMENT

AT RISK CONSTRUCTION AGREEMENT
BETWEEN PULTE HOME CORPORATION AND THE VILLAGE OF
WILLOWBROOK
FOR CARRINGTON CLUB, WILLOWBROOK, ILLINOIS

THIS AT RISK AGREEMENT (hereinafter "**Agreement**") is entered into this 27th day of June, 2016 between Pulte Home Corporation, with offices located at 1900 E. Golf Road, Suite 300, Schaumburg, IL 60173 (hereinafter referred to as "**DEVELOPER**"), and the Village of Willowbrook, with its principal office located at 835 Midway Drive, Willowbrook, IL 60527, (hereinafter referred to as "**VILLAGE**"). VILLAGE and DEVELOPER are together hereinafter referred to as the "**Parties**" and sometimes individually as "**Party**".

RECITALS

WHEREAS, the Village's planned unit development and subdivision and platting regulations contained in Titles 9 and 10 respectively of the Willowbrook Village Code, as amended from time to time, establish procedures and standards for planned unit developments, surveying, platting, subdividing, and developing real property;

WHEREAS, Developer is the contract purchaser of approximately 9.13 acres of real property located on the west side of Clarendon Hills Road between 63rd Street and 67th Street near Willowbrook in DuPage County, Illinois ("**Property**"); and

WHEREAS, on or about June 13, 2016, the VILLAGE approved the Preliminary Plat of Subdivision of Carrington Club; and

WHEREAS, for the purposes of this Agreement, the DEVELOPER desires to begin demolition, mass grading and installation of storm improvements (hereinafter cumulatively referenced as "**At Risk Construction**") before recording the Final Plat of Subdivision and the Final Plat of Subdivision, and seeks to proceed with said construction based upon plans entitled "At Risk Construction Final Engineering Plans for Carrington Club; and

WHEREAS, the DEVELOPER has provided the VILLAGE with an irrevocable letter of credit issued by Bank of America, in a form approved by the Village Attorney, in an amount equal to one hundred twenty-five percent (125%) of the approved engineer's estimate of the cost of the At Risk Construction for the Subject Property as specified in the attached "**Exhibit A**", which depicts the At Risk Construction EOPC for Carrington Club; and

WHEREAS, among other things, the VILLAGE'S Planned Unit Development and Subdivision Control Regulations require VILLAGE approval of all final engineering plans, and approval and recording of a Final Plat of Planned Unit Development and Final Plat of Subdivision, execution of a Subdivision Improvement Agreement, and posting of a security acceptable to the VILLAGE in the amount of 125% of the amount of the engineer's estimate of probable costs.

NOW THEREFORE, in consideration of the promises and mutual covenants contained in this Agreement, the Parties hereto agree that:

1. The foregoing Recitals are substantive and are incorporated by reference in this paragraph 1 as though fully set forth.

2. The DEVELOPER hereby represents that it has entered into this Agreement as an entity independent from the VILLAGE, for its own right and benefit, and not as an agent or employee of the VILLAGE.

3. Subject to the DEVELOPER's strict adherence to the approved At Risk Construction Final Engineering Plans for Carrington Club, and subject to the provisions of this Agreement, the VILLAGE shall allow the DEVELOPER to begin construction of the At Risk Construction work on the Subject Property, provided that such improvements shall be limited to the At Risk Construction work in accordance with Exhibit A attached hereto. For the purposes of this Agreement, "At Risk Construction" shall be defined as demolition, mass grading and limited storm sewer construction, as more fully defined in the Exhibit A attached. Developer shall not commence the At Risk Construction work until the applicable permits for such work are issued for such work (mass grading and a demolition permit).

4. Prior to the issuance of any permits or commencement of any work, DEVELOPER shall contract with a licensed wildlife and pest control company to inventory and relocate and/or abate wildlife and pests that would otherwise become a nuisance to surrounding properties when displaced by construction. Applicant shall provide the Village with copies of paid receipts and all correspondence from selected wildlife and pest control company when work is concluded, and shall thereafter follow up as necessary to abate nuisance wildlife as requested by the Village.

5. Any approval granted pursuant to this Agreement is preliminary only and any construction on the Subject Property shall be performed at the DEVELOPER's sole risk.

6. The DEVELOPER shall attend a preconstruction meeting with the Village Engineer before any construction begins construction of At Risk Construction on the Subject Property, and agrees to comply with all directives of the Village Engineer with respect to construction covered by this Agreement.

7. The DEVELOPER hereby unconditionally guarantees and warrants that all construction or development allowed by this Agreement shall be completed in conformity with the Final Engineering Plans, with the terms and conditions of the Annexation Agreement, with applicable Laws, and with all provisions, conditions, and restrictions contained or referenced herein.

8. No building permit shall be issued until the Final Plats of Subdivision and PUD for Carrington Club have been fully executed and recorded in the Office of the DuPage County Recorder.

9. Any construction performed on the Subject Property pursuant to this At Risk Agreement which the Village Engineer determines does not conform to the Final Engineering Plans for construction as approved by the Village Engineer, shall be modified and corrected at the sole expense and liability of the DEVELOPER within a time frame determined by the Village Engineer.

10. The Village Engineer shall re-inspect and require the reconstruction of any At Risk Construction allowed by this Agreement which fails to conform to the Final Engineering Plans approved by the Village Engineer.

11. The DEVELOPER hereby undertakes and assumes all liability for any injuries, deaths, losses, damages, claims or judgments of any nature whatsoever resulting from or in connection with the “**At Risk**” construction, and shall at its sole cost defend (with legal counsel approved by the VILLAGE, which approval shall not be unreasonably withheld), indemnify, and hold harmless the VILLAGE and its officers, agents, and employees against all claims of injuries, deaths, losses, damages, claims, suits, liabilities, judgments, costs and expenses, including reasonable in-house and/or retained attorneys’ fees, costs, and expenses which may in any way arise from or accrue against the VILLAGE or its officers, agents, or employees as a consequence of this Agreement, or arising out of the activities taken in accordance with, this Agreement or which may in any way result therefrom. Nothing herein shall be construed as prohibiting the VILLAGE or its officers, agents or employees from defending through the selection and use of their own agents, attorneys and experts, any claims, actions or suits brought against them arising out of the performance of this Agreement.

12. The DEVELOPER shall immediately indemnify and reimburse the VILLAGE for any reasonable costs, including but not limited to attorneys’ fees, costs, and expenses of in-house and/or retained legal counsel, which the VILLAGE incurs in enforcing the provisions of this Agreement provided the VILLAGE prevails in any aspect of its enforcement action.

13. The provisions set forth in paragraphs six through nineteen of this Agreement shall survive the expiration or termination of this Agreement.

14. If the DEVELOPER fails to fulfill any of its obligations under this Agreement, fails to comply with any of the VILLAGE ordinances or requirements for the platting and subdivision of the Subject Property, the VILLAGE shall be under no obligation to approve the Final Plat of Subdivision for the Subject Property, or to direct to the Village Clerk to record any such plat.

15. If the DEVELOPER fails to fulfill any of its obligations under this Agreement, including but not limited to failure to comply with any applicable Laws, the DEVELOPER shall waive and forego any right which it may have to bring a legal action to force the recording of the Final Plat of Subdivision. If any such action is brought against the VILLAGE, the DEVELOPER shall be responsible for all reasonable attorneys’ fees, costs, and expenses, including in-house and/or retained counsel, incurred by the VILLAGE to defend against such an action.

16. The VILLAGE, and its officers, agents and employees, shall not in any way be responsible or liable for any costs, losses, or injuries of any nature which may accrue to the DEVELOPER as a result of the VILLAGE's failure to take action to approve the Final Plat of Subdivision for the Subject Property or to direct the Village Clerk to record any such Plat.

17. Nothing herein shall be deemed to amend or modify the terms of the Annexation Agreement. In the event of any conflicts between the terms hereof and the terms of the Annexation Agreement, the terms of the Annexation Agreement shall control.

18. This Agreement shall not be assigned by any Party hereto without the prior written agreement of the other Party.

19. Nothing contained in this Agreement shall be construed as a prohibition or limitation on the VILLAGE's right to enforce any and all applicable VILLAGE regulations, ordinances and Code provisions with respect to the Subject Property and/or the construction permitted pursuant to this Agreement.

20. Failure of the DEVELOPER to pay the VILLAGE for any costs, fees, expenses, or other reimbursements provided for herein, within forty-five (45) days of receipt of a bill therefore (or if the DEVELOPER has declared or is in the process of declaring any form of bankruptcy) shall result in the VILLAGE's ability to file a lien against the Subject Property for such sums with interest accruing at the rate of five percent (5%) per annum.

21. Release of Letter of Credit. The Letter of Credit contemplated by this Agreement will be released when the VILLAGE has inspected, approved and accepted the public improvement for the community, including the work contemplated by this Agreement.

22. This Agreement shall in all respects be subject to and construed in accordance with and governed by the laws of the State of Illinois. Venue for any action arising out of the terms or conditions of this Agreement shall be proper only in the Circuit Court for the Eighteenth Judicial Circuit, DuPage County, Illinois.

23. If any term of this Agreement is ambiguous, it shall not be construed for or against any party on the basis that the Party did or did not write it.

24. The undersigned warrant and represent that they have been lawfully authorized to execute this Agreement and to bind their respective Parties.

[Signature pages immediately follow]

THE DEVELOPER HAS READ THIS AGREEMENT, HAS HAD THE ADVICE OF COUNSEL WITH RESPECT TO ITS MEANING, AND BY ITS SIGNATURE BELOW FULLY INTENDS TO BE BOUND BY ITS TERMS.

DEVELOPER:

PULTE HOME CORPORATION, a
Michigan corporation

By: _____
Name: _____
Its: _____

State of Illinois)
COUNTY OF _____)

I, the undersigned, a Notary Public, in and for the County and State aforesaid, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Pulte Home Corporation, is the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that, as such _____, (s)he signed and delivered such instrument as his/her free and voluntary act and deed, and as the free and voluntary act and deed of such corporation, for the uses and purposes therein set forth.

Given under my hand and official seal, this ____ day of _____, 2016.

Notary Public

Commission expires: _____

VILLAGE OF WILLOWBROOK

By: _____
Name: _____
Mayor

ATTEST:

By: _____
Name: _____
Village Clerk

VILLAGE OF WILLOWBROOK

BOARD MEETING AGENDA ITEM - HISTORY/COMMENTARY

ITEM TITLE:

RESOLUTION - AUTHORIZING THE EXECUTION OF A LETTER OF INTENT TO PARTICIPATE IN THE DUPAGE JUDICIAL INFORMATION SYSTEM (DuJIS)

AGENDA NO.

9

AGENDA DATE: 6/27/16

STAFF REVIEW: T. Halik, Vil. Admin. / M. Shelton, Police Chief

SIGNATURES:

T. Halik / M. Shelton

LEGAL REVIEW: Thomas Bastian, Village Attorney

SIGNATURE:

Tom Bastian

RECOMMENDED BY: Tim Halik, Village Administrator

SIGNATURE:

T. Halik

APPROVED BY PUBLIC SAFETY COMMITTEE: YES ☒ on June 13, 2016 NO ☐ N/A ☐

ITEM HISTORY (PREVIOUS VILLAGE BOARD REVIEWS, ACTIONS RELATED TO THIS ITEM, OTHER HISTORY)

One of the identified benefits of moving our police dispatch to DU-COMM in 2015 was to participate in the eventual updated Countywide Computer-Aided Dispatch/Records Management System (CAD/RMS). This new system, called the DuPage Judicial Information System (DuJIS) would serve to integrate police and fire data platforms throughout the county. After much work on this project, and unexpected delays, the DuPage Emergency Telephone System Board (ETSB) is preparing to award a contract for this project to Intergraph Corporation. ETSB is now requesting that agencies wishing to participate in this program execute a Letter of Intent.

The estimated total cost of this project, for all participating DuPage County agencies, is \$12,135,183. The estimated total project cost for Willowbrook, based on number of users, etc., is \$184,281.48, which includes required equipment replacement costs, interface costs, and network costs (network connection costs will be an annually re-occurring fee of approximately \$9,516). Payments will be made over a five (5) year term and will begin in FY 2017/18. Two (2) items should be noted pertaining to these estimated project costs:

- 1) In preparing the estimated project cost schedule, the DuPage ETSB erred on the conservative in an effort to ensure costs did not increase. It is hoped that final projects costs will be lower.
- 2) Notwithstanding the above, if individual agencies decide not to participate, project costs will increase for the remaining participants. However, a provision is included in the Resolution which allows Willowbrook to withdraw the Letter of Intent if final costs to Willowbrook increase by more than 10%.

ITEM COMMENTARY (BACKGROUND, DISCUSSION, RECOMMENDATIONS, ETC.)

In order to finalize the contract with Intergraph, agencies desiring to participate in the DuPage Justice Information System (DuJIS) were asked to complete an informational survey, which staff already completed, and execute a Letter of Intent, which would require adoption of a resolution by the Village Board, by June 25, 2016. Although we could meet this short deadline given our June Board meeting dates, we advised DuPage ETSB in our survey response that a resolution would be considered by our Board on June 27th, which was acceptable to them.

ACTION PROPOSED: Adopt Resolution to allow the execution of the Letter of Intent.



EST. 1960

Willowbrook

835 Midway Drive
Willowbrook, IL 60527-5549

Phone: (630) 323-8215 Fax: (630) 323-0787 www.willowbrookil.org

June 28, 2016

Mayor

Frank A. Trilla

Village Clerk

Leroy R. Hansen

Village Trustees

Sue Berglund

Umberto Davi

Terrence Kelly

Michael Mistele

Gayle Neal

Paul Oggerino

Village Administrator

Tim Halik

Chief of Police

Mark Shelton



Proud Member of the
Illinois Route 66 Scenic Byway

Hon. Robert B. Berlin
DuPage County State's Attorney
503 N County Farm Rd.
Wheaton, Illinois 60187

Hon. Gary Grasso, Chairman
Emergency Telephone System Board
421 N County Farm Rd.
Wheaton, Illinois 60187

Dear State's Attorney Berlin and Chairman Grasso:

This letter is to confirm the intention of the Board of Trustees of the Village of Willowbrook to participate in the DuPage County Judicial Information System (DuJIS). I am advising you that the Board of Trustees authorized me to execute the letter on its behalf in accordance with the resolution which I have attached. The Board of Trustees makes this representation after its review of the following documents provided by the ETSB on June 1, 2016 and which were incorporated in the resolution:

- Letter of Intent
- Organizational Structure
- Financial Overview (to date)
- Agency Estimated Costs (to date)
- Report Management System (RMS) Staffing Overview
- Additional Costs Summary
- GIS Work Flow and Addressing Description

The Board of Trustees understands and acknowledges that the ETSB will rely on this commitment in determining the final cost for the projections of the DuJIS Project and in determining whether to proceed with contract award. The Board of Trustees understands and expects that the ETSB will notify it prior to contract award if the estimated cost to the Village of Willowbrook increases by more than ten (10) percent.

Sincerely,

Village of Willowbrook

Frank A Trilla
Mayor

FAT/th
Attachments.

RESOLUTION NO. 16-R-_____

RESOLUTION - AUTHORIZING THE EXECUTION OF A
LETTER OF INTENT TO PARTICIPATE IN THE
DUPAGE JUDICIAL INFORMATION SYSTEM (DuJIS)

WHEREAS, the County of DuPage, Illinois in collaboration with its Emergency Telephone System Board (ETSB), is prepared to implement an integrated justice system known as DuJIS which will allow participating police and fire departments to exchange information with and between the County's court and correctional entities; and

WHEREAS, the County intends DuJIS will replace the ETSB's existing Computer Aided Dispatch (CAD) system; and

WHEREAS, County intends DuJIS will replace the existing incident Report Management System (RMS) used throughout the County; and

WHEREAS, the Village of Willowbrook has reviewed materials prepared by the ETSB which detail DuJIS's estimated costs, organization, and functionality, and such documents are incorporated in this resolution as if fully set forth herein; and

WHEREAS, the Village of Willowbrook desires to participate in the DuJIS System;

NOW THEREFORE BE IT RESOLVED THAT the Mayor shall be and hereby is directed to execute the attached Letter of Intent directed to the State's Attorney and the Chairman of the ETSB; and further

BE IT RESOLVED, that the Village Clerk shall transmit copies of this Resolution to the State's Attorney and the Chairman of the Emergency Telephone System Board forthwith; and further

BE IT RESOLVED, that the Mayor and Board of Trustees of the Village of Willowbrook, DuPage County, Illinois is authorized to withdraw the Letter of Intent if the ETSB determines that the estimated cost to the Village of Willowbrook will increase by more than ten (10) percent beyond the projection supplied by the ETSB.

ADOPTED and APPROVED this 27th day of June, 2016.

APPROVED:

Mayor

ATTEST:

Village Clerk

ROLL CALL VOTE:

AYES: _____

NAYS: _____

ABSTENTIONS: _____

ABSENT: _____



TO: DuPage Justice Information System Participants (DuJIS)

FROM: States Attorney Robert Berlin and Gary Grasso
DuJIS Chairman DuPage ETSB Chairman

DATE: May 27, 2016

SUBJECT: DuPage Justice Information System Letter of Intent and Next Steps

Thank you for your interest in participating in the DuPage Integrated Justice Information System (DuJIS) project. The purpose of this memorandum is to provide an overview of the next steps and to seek participation from DuPage municipal and fire protection district agencies, in the form of a Letter of Intent, in order to finalize the contract with Intergraph, the vendor to which the Emergency Telephone System Board (ETSB) is preparing to award the contract for this project.

In order for the ETSB to properly price the contract, it requests that you present the enclosed "Letter of Intent" to your governing board for its approval. Please include the actual handouts as shown in the sample as part of your resolution. We have enclosed included a five-year cost projection to assist you in your decision.

The Law Enforcement Report Management System (LE RMS) cost projection includes the portion of the capital investment your agency will be responsible for as well as for its share of the ongoing maintenance, staffing (four IT professionals for LE RMS), and equipment replacement costs based on the number of users your agency would have in the system today. We have calculated this based on a cost-per-user basis. We have included an equipment replacement contribution so that the LE RMS system can be self-sustaining and allow for available funding for the upgrade or replacement of law enforcement report writing software in the future. DuPage ETSB NetRMS participants may already be familiar with equipment replacement cost preparation from your cost sharing experiences with that system. While this is not a new approach for the ETSB, it was not part of the cost projections that the manager for the initial stages of the project, Mr. David Usery, shared with you last Fall. Because we believe it is important to set aside funds for the eventual upgrade or replacement of the system in the years ahead, we have revised those projections to account for equipment replacement.

The DuJIS project is a very complex project with many interfaces to various technologies. To that end, the ETSB will only permit cost-sharing for common expenses. If an agency requires additional interfaces with the RMS or CAD to their unique software applications, it will need to obtain them through Intergraph the cost of which will be the responsibility of the impacted agency as included in the contract. Neither the ETSB nor the County will be responsible for the costs of interfaces to agency-specific software. Agency specific interfaces will be configured after the core systems are deployed, approximately 24 months from date of contract. Itemized cost projections per agency are included with this document. This information will allow participants with agency specific interfaces the opportunity to decide whether or not to move to one of the core shared applications versus paying for a specific interface.

We have made every effort to determine the five-year cost for this system including an equipment replacement contribution.

We ask that you present the Letter of Intent as is to your agency's corporate authorities, and upon its approval, execute the letter on your letterhead and return it to DuPage ETSB at 421 County Farm Road, Wheaton, IL 60187 by June 25, 2016. If some agencies elect not to participate and that reduction changes the costs to any agency by more than ten percent (10%), we will notify each agency that has executed the letter of intent of this change in costs and to allow it the opportunity to reassess its intention to participate.

The ETSB presently anticipates letting the contract before the end of the second quarter, 2016. The next ETSB Committee of the Whole Meeting is Wednesday, June 1 at 8:30am in the County Board Room at 421 County Farm Road, Wheaton. This is a two hour time block the ETSB intends to convene this additional Committee of the Whole for the exclusive purpose of reviewing the details of the contract before its final approval before the end of June. The ETSB will provide notice for those interested in attending.

Following the approval of the contract, the ETSB will request the County Board enter into intergovernmental agreements (IGAs) on the ETSB's behalf with each of the various Public Safety Answering Points (PSAPs) whose members will participate in DuJIS. The IGAs will outline the organization of the system and the respective duties of the ETSB and each PSAP. The IGAs will require each PSAP pass its obligations through to its participating member agencies. Each PSAP will be responsible for collecting an annual per capita assessment for DuJIS from its member agencies and for paying those assessments to the County and to the ETSB.

We are providing the following attachments to assist Agencies in making their decision regarding participation in the DuJIS Project:

- Letter of Intent and Resolution language with requested return attachments
- Steering Committee Structure
- DuPage Customer Pricing Overview (to date)
- Agency Cost Projections Summary (to date)
- Law Enforcement Report Management System (LE RMS) Staffing Overview
- Additional Costs Summary
- GIS Work Flow

Letter of Intent:

As we explained previously, the ETSB has requested that each prospective DuJIS participant present a letter of intent to its corporate authorities. The ETSB will use each agency's commitment to determine the total number of participants in the system as well as final pricing. After your agency has completed its due diligence and approved the letter of intent's execution, please return it to DuJIS Project, c/o DuPage ETSB 421 County Farm Road, Wheaton, IL 60187. If the number of participants changes the cost per agency by an increase of more than ten percent (10%), agencies that have indicated participation will be notified. Once a sufficient number of agencies approve the Letter of Intent, the State's Attorney, in collaboration with the attorneys for each of the participating PSAPs, will develop a standardized IGA to implement the system. As noted previously, we anticipate the PSAPs will serve as "contractual conduit" to help facilitate project implementation and to help manage the flow of responsibilities between the agencies, the ETSB, and the County in much the same way they did during the implementation and eventual operation of the radio project.

We ask that you present the resolution authorizing the execution of the letter of Intent to your board or council at your earliest opportunity and include the backup materials we are providing as attachments to the resolution.

Organizational Structure:

Upon project commencement, the County will retain a Report Management System (RMS) Manager through its Human Resources Department for LE RMS. While the County's Director of Information Technology and the ETSB's Executive Director will jointly make the final selection, a small panel representing various LE RMS user groups will participate in the selection process and screen the applicants.

Though initially an ETSB position, the RMS Manager will transition to the County's IT Department beginning with FY2017 when the project is under contract and intergovernmental agreements have been executed with participants. These instruments will obligate the funds necessary for the County to proceed with increasing its headcount for this project and completing the staffing transfer.

The ETSB will formalize the existing staff work groups which have provided valuable guidance in the vendor selection process into standing ETSB committees and subcommittees. Once established, these bodies will proceed through the existing Policy Advisory Committee (PAC), which the ETSB will restructure to allow for this expanded role. These work groups will also identify, draft and recommend policy to the ETS Board through the PAC for DuJIS for, but not limited to, standardization of data bases and mapping/addressing.

Representatives of the County of DuPage, the State's Attorney, the Sheriff, the Clerk of the Circuit Court, the DuPage Mayors and Managers Conference, the DuPage County Chiefs of Police, the DuPage County Fire Chiefs Association, the ETSB, and the City of Naperville have and will continue to collaborate on a consensus-based model to facilitate project implementation. While the ultimate authority for project management will be coordinated by the County's IT Department (LE RMS) and the ETSB (CAD), the members of this collaborative will ensure that the entities or elected officials they represent are fully informed about project goals, development, and the implementation timeline. In this way, as opposed to the creation of a formalized and rigid governance structure, each entity or elected official retains their autonomy and must independently exercise their respective functions related to project implementation. As of the Spring of 2016, State's Attorney Berlin serves as the coordinator of this loose collaborative, sometimes referred to as "governance" or a "steering committee."

Financial Overview:

We have provided the Intergraph financial cost sheet for your review. This document contains the costs to date for the system and four years of maintenance. The estimated total cost for the Intergraph contract is approximately \$12M. The coding on this sheet represents CAD (ETSB cost), RMS (Agency cost) and COM (cost attributed to both CAD and RMS which are split between these two systems). These codes were utilized to determine the agency share for reimbursement.

The ETSB will advance the initial financing for the entire project. The Agency Estimated Costs which are shown to the right of the pricing information on the spreadsheet, show the reimbursement required by Agencies to ETSB. When you met with Mr. David Usery, he provided you with cost estimates for LE RMS based upon common interfaces. These projections did not include costs for interfaces necessary to allow RMS to communicate with any additional systems your agency may have elected to utilize (such as Lexis/Nexis, Livescan, Beast, etc.), maintenance over the life of the contract, personnel or equipment replacement. For this reason, the numbers you are seeing now are somewhat larger than those you reviewed in the Fall.

Agency Estimated Costs:

This attachment details the estimated costs each agency can expect to pay for system access. It is similar in format to the current NetRMS annual billing where the RMS costs are determined per user. Please be aware that the new system will assign each user a *unique* sign on and will not support collective access to the system for a records or investigations department. For this reason, it is critical that you verify the number of users your agency will have on the system.

When you met with Mr. Usery in the Fall, he provided you with cost estimates for LE RMS acquisition based entirely on the costs of project acquisition. As was the case with hardware replacement, subsequent discussions led to the recognition that existing County and ETSB staff could not satisfy the staffing requirements Intergraph proposed were necessary to properly and effectively maintain a modern LE RMS. After a thorough review of the proposed requirements, technical experts from the County's IT Department, the ETSB, user groups, and Intergraph reached a consensus recommendation that requires the County to increase its existing staff by four (4) full time equivalent positions ("FTEs"). Based on the County's Human Resources' current salary matrix for the relevant job descriptions, the staff increase will represent an annual estimated cost of \$425,000, including employee benefits.

As is the case with the RMS Manager, all initial staff will be hired through the ETSB's existing budget and under its headcount allocation. At the start of FY18 (December 1, 2018 for DuPage County), staff positions dedicated to RMS administration will transition from the ETSB to County IT.

This form also includes costs for participants that have agency specific interfaces. There is an overall cost sheet and subsequent worksheets which provide greater detail as to how these costs were calculated. It should be noted that the results are based on information provided by participants. You should check your agency specific categories with internal staff to ensure it is correct.

RMS Staffing Overview:

This worksheet will provide additional detail for the staffing positions based on Intergraph recommendations and DuPage County Human Resources' job descriptions and salary matrix.

Additional Costs Summary:

We have attempted to account for any additional costs that may be incurred by participants. To date, these include CPU/Mobile hardware that does not meet the specifications required for this system, replacement of the SONET network to a new network to support 911 systems, wireless technology for mobile terminals and fire station alerting. The attachment provided will contain more detailed information.

GIS Work Flow and Addressing Ordinance:

Mapping is a critical function of the new CAD system which will require standardization. Participants are encouraged to have an addressing ordinance to facilitate standardization. There is also a flow chart to outline the process for address changes.



DuPage Digital Justice Information System Project Work Team

Legal Counsel: Rick Veenstra

Governance Advisory Committee:

Bob Berlin, Chairman	DuPage States Attorney
Mark Baloga	DMMC
Robert Marshall	Naperville Police
Andy Bonomo	DuPage Fire Chiefs
Tom Cuculich	DuPage County
Don Carlsen	County Information Officer
Dewey Hartman	DuPage Circuit Clerk
Bill Hayden	DuPage Chiefs of Police
Jim Kruse	DuPage Sheriff's Office
Paul Rafac	County Finance Officer
Linda Zerwin	DuPage ETSB
TBD	Probation

Project Manager: Deltawrx, LLC – Report to ETSB/Linda Zerwin

Finance/Legal Team:

Paul Rafac, Lead	County Finance
Don Carlsen	County IT
Bill Hayden	DuPage Police Chiefs / Village of Addison grant
Jim Kruse	DPSO
Jim Jackson	DuPage Fire Chief Association
Rick Veenstra	SAO
Linda Zerwin	ETSB
Rebecca Cussans	County Procurement

Tech Team:

Matt Baarman, Lead	DU-COMM
Scott Klein	DU-COMM
David Jordan	DPSO
Wendy Wagner	County IT
Eric Sherpan	County IT
Jerry Furmanski	ETSB
Jason Arres	Naperville
Jason Snow	Naperville
Mike Sampey	ACDC

GIS Team

Tom Ricker, Lead	County GIS
Mike DiGiannantonio	ETSB
Mike Chastain	DU-COMM
Jason Snow	Naperville

Law Enforcement RMS Team:

Law Enforcement Executive Team

Dave Anderson	Lisle PD, LE
Tom Kammerer	Naperville PD, LE
Greg Vesta	Wood Dale, LE
Sworn LE Executive	DuPage Sheriff's Office, LE

User Group Team

Patti Taves, Lead	Glen Ellyn PD
Mike Tierney	Addison PD
Tracy Adams	Downers Grove PD
Mike Novak	Hanover Park PD
Jan Barbeau	Wheaton PD
Diane Schlake	Naperville PD
Mike DiGiannantonio	ETSB
Tom Brown	DPSO

CAD Team:

Jennifer Rizzo, Lead	Downers Grove PD
Heather Lippe	Downers Grove PD
Delores Temes	ACDC
Brandon Hurd	ACDC
Ron Gross	DU-COMM
Jenny Bostick	DPSO
David Jordan	DPSO
Kalah Considine	Naperville
Jerry Furmanski	ETSB
Mike DiGiannantonio	ETSB
ETSB Deputy Director	ETSB

Fire Team:

Dan Anderson	Roselle FD
John Sullivan	Addison FPD
Andy Bonomo	York Center FPD
Steve Riley	Westmont FD
Eric Kramer	Addison FPD
Amy Scheller	Naperville FD
Jim Halik	Westmont FD

CAD/Mobile/WebRMS/FBR				US\$	US\$	US\$
PRODUCTION ENVIRONMENT						
Production Environment Host Servers						
Dell PowerEdge R630 - Two 22-Core Processors - 384GB RAM - vSphere EnterprisePlus v6.0 (Q2); Dual Internal SD Cards for OS; Dual 10Gb NIC; 1TB; Dual Redundant Power Supplies; 6 year Pre-Paid ProSupport and Mission Critical Package (4-hours 7/24 on-site support)	Production Environment Host Servers	COM	6	\$ 33,750	\$ 202,500	
Microsoft Windows Server 2012 R2 Datacenter	Production Environment (Base)	COM	6	\$ 5,816	\$ 34,896	
CAD Database Server #1						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	CAD Database Server #1	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
I/E Oracle High Availability (IPS00011A)	Monitors CAD system transactions, includes ANI/ALI	CAD	1	\$ 73,459	\$ 73,459	\$ 16,800
CAD Database Server #2						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack	CAD Database Server #2	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
Microsoft Visual Studio Professional 2012		COM	1	\$ 580	\$ 580	\$ 139
CAD Archive / Reports / Web Server						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	CAD Archive / Reports / Web Server	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
I/Backup - No Cost License (IPS0035NC)	Facilitates backup of the CAD database to this tertiary server	CAD	1	Included at no additional cost		
CAD Web Server						
I/NetViewer - 200 users		CAD	1	\$ 171,959	\$ 171,959	\$ 35,544
I/NetDispatcher - 25 concurrent users (IPS0045)		CAD	1	\$ 111,300	\$ 111,300	\$ 23,004
Business Intelligence Direct Server						
BI Direct for iNPU/SUIT WebRMS (includes 20 CC User Licenses) (SBND3090L)		PRMS	1	\$ 24,000	\$ 24,000	\$ 5,904
SAP Basis/BI Int Plat for Direct - 20 CC - Comp (IPS21183C)		PRMS	1	\$ 11,400	\$ 11,400	\$ 2,820
Business Intelligence Direct for CAD Bundle - 10 NUL (SBND3081L)		CAD	1	\$ 18,000	\$ 18,000	\$ 4,296
SAP Basis/BI Int Plat for Direct - 10 NUL - Comp (IPS21006C)		CAD	1	\$ 8,700	\$ 8,700	\$ 2,052
Business Intelligence Direct WebRMS Database Server						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	Business Intelligence Direct WebRMS Database Server	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
Interface / Communications Load Balanced Servers #1-3						
ANI-ALI (Included with I/E Oracle)	Automatic Number Identification/Automatic Location Identification	CAD	1	Included at no additional cost		
Master Clock Interface		CAD	1	Included at no additional cost		
ProQA Interface (Included with I/Dispatcher)		CAD	1	Included at no additional cost		
I/Informer (IPS0004)		CAD	1	\$ 24,486	\$ 24,486	\$ 5,064
Custom Services for Informer to State and LEADS/NCIC Message Switch (IPSCADCUST-IP0004-A)	Allows query to external interfaces	CAD	1	\$ 28,158	\$ 28,158	\$ 5,772
Custom Services for Informer to ICLEAR (IPSCADCUST-IP0004-B)		CAD	1	\$ 14,444	\$ 14,444	\$ 2,889
Custom Services for Informer to DMV Image Support (IPSCADCUST-IP0004-C)		CAD	1	\$ 21,666	\$ 21,666	\$ 4,332
Custom Services for Informer to FIREHOUSE FireRMS (IPSCADCUST-IP0004-D)		CAD	1	\$ 7,222	\$ 7,222	\$ 1,444
Custom Services for additional Informer Queues to State Message Switch (CQH, CQR, Handicap, Pleaded, and FOLD and to support name sounds) (IPSCADCUST-IP0004-F)	Assumes one Legacy RMS System Database	CAD	1	\$ 28,838	\$ 28,838	\$ 5,778
Custom Services for Informer to Offender Watch System (IPSCADCUST-IP0004-G)		CAD	1	\$ 14,444	\$ 14,444	\$ 2,889
Informer Transactions for Mobile Responder (IPSCADCUST-7)		CAD	1	\$ 7,222	\$ 7,222	\$ 1,444
I/Informer Nested Queries (IPSCADCUST-23)		CAD	1	\$ 26,664	\$ 26,664	\$ 5,332
I/Informer for WebRMS NL (IPS0004WR)		CAD	1	Included at no additional cost		
EdgeFrontier Runtime Engine (IPS3042)		CAD	1	\$ 20,000	\$ 20,000	\$ 4,800
CAD EdgeFrontier Custom Interface for Alerts and Flags requirements support (IPSCADCUST-3)		CAD	1	\$ 14,444	\$ 14,444	\$ 2,889
CAD EdgeFrontier Custom Interface for Call Clacking/Queueing Support (IPSCADCUST-4)		CAD	1	\$ 4,333	\$ 4,333	\$ 867
I/Page (IPS0012)		CAD	1	\$ 22,260	\$ 22,260	\$ 4,596
I/Telephone Device for Deaf - Zetron (IPS0018)		CAD	1	\$ 11,130	\$ 11,130	\$ 2,304
I/FRMS-CADLink (IPS0048-1)	Firehouse FireRMS	PRMS	1	\$ 11,130	\$ 11,130	\$ 2,304
I/Fire Station Alerting (IPS0052)	Station Alerting System	CAD	1	\$ 11,130	\$ 11,130	\$ 2,304
I/Decom L1 eMUM Interface (IPS0065)		CAD	1	\$ 5,565	\$ 5,565	\$ 1,332
Smart 911 Interface (IPSCADCUST-6)		CAD	1	\$ 21,666	\$ 21,666	\$ 4,332
I/FRMSLink for Firehouse - Per additional endpoint/third-party database (IPSCADCUST-9)	Per additional endpoint/third-party database (assumption: All are on the same protocol) and each agency database has its own CAD Monitor from FIREHOUSE.	AJDD	26	\$ 1,444	\$ 37,554	
Custom Services for Informer to FIREHOUSE FireRMS - Per additional agency database (IPSCADCUST-11)		AJDD	26	\$ 1,444	\$ 37,554	
Smart 911 Interface - Per additional PSAP Connection (IPSCADCUST-10)	Per additional PSAP Connection	CAD	4	\$ 16,250	\$ 65,998	\$ 13,000
Interface / Communications Load Balanced Redundant Servers #1-3 (hot failover)						
ANI-ALI (Included with I/E Oracle) (ANI-ALI)		CAD	1	Included at no additional cost		
Master Clock Interface (XNTP)		CAD	1	Included at no additional cost		
ProQA Interface (Included with I/Dispatcher) (PQ-1)		CAD	1	Included at no additional cost		
I/Informer - Redundant License (IPSCADCUST-IP0004RDT)		CAD	1	\$ 17,140	\$ 17,140	\$ 3,540
I/Informer for WebRMS NL - Redundant License (IPS0004WRDIT)		CAD	1	Included at no additional cost		
EdgeFrontier Runtime Engine - Redundant License (IPS3042-RDIT)		CAD	1	\$ 14,000	\$ 14,000	\$ 3,360
I/Page - Redundant License (IPS0012RDT)		CAD	1	\$ 15,582	\$ 15,582	\$ 3,216
I/Telephone Device for Deaf - Zetron - Redundant License (IPS0018RDT)		CAD	1	\$ 7,791	\$ 7,791	\$ 1,608
Standard and Custom Interfaces - Test, Training, Redundant and Failover Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1			
Mobile Data Server #1						
I/Mobile Data Terminal (IPS0009)		CAD	1	\$ 48,972	\$ 48,972	\$ 10,128
I/Tracker (IPS0015)		CAD	1	\$ 27,825	\$ 27,825	\$ 5,724
Mobile Data Server #2 (Load Balanced)						
I/Mobile Data Terminal (IPS0009)		CAD	1	\$ 48,972	\$ 48,972	\$ 10,128
I/Tracker (IPS0015)		CAD	1	\$ 27,825	\$ 27,825	\$ 5,724
Mobile Data Server #3						
I/Mobile Data Terminal (IPS0009)		CAD	1	\$ 48,972	\$ 48,972	\$ 10,128
I/Tracker (IPS0015)		CAD	1	\$ 27,825	\$ 27,825	\$ 5,724
Intergraph Mobile Responder Server (251-750 Users) Bundle (SBND3207L)		CAD	1	\$ 40,000	\$ 40,000	\$ 9,144
WebRMS Database Server #1						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	WebRMS Database Server #1	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
WebRMS Database Server #2						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	WebRMS Database Server #2	COM	6	\$ 7,900	\$ 47,400	\$ 8,064
WebRMS Application Clustered Server #1 thru #4						
WebRMS Server License (RMS0016)	WebRMS Environment Server License to be installed on applicable WebRMS Production Application Servers	PRMS	1	\$ 87,000	\$ 87,000	\$ 20,220
Apache Tomcat 6 (Free Download)		COM	5	Included at no additional cost		
Crystal Reports for Eclipse		COM	5	Included at no additional cost		
WebRMS Application Clustered Redundant Server #5						
WebRMS Server License - Redundant License (RMS0016RDT)		PRMS	1	\$ 60,900	\$ 60,900	\$ 14,580
WebRMS Interface Load Balanced Servers #1-3						
EdgeFrontier Runtime Engine (IPS3042)		PRMS	1	\$ 20,000	\$ 20,000	\$ 4,800
Intergraph WebRMS Connect for EdgeFrontier (IPS2043)		PRMS	1	Included at no additional cost		
RMC EdgeFrontier Customization for BEAST Interface (R14S) (IPSRMSCUST)	Bi-Directional	PRMS	1	\$ 27,220	\$ 27,220	\$ 5,444
RMS EdgeFrontier Customization for APS Virtual Partner 2 Interface (R14S) (IPSRMSCUST-1)	1-way Import	PRMS	1	\$ 23,331	\$ 23,331	\$ 4,666

RMS EdgeFrontier Customization for Motorola Offendertrak interface (RMS) (IPSRMSCUST-4)	Bi-Directional (Sheriff's Office)	PRMS	1	\$	31,108	\$	31,108	\$	6,222
RMS EdgeFrontier Customization for LiveScan interface (RMS) (IPSRMSCUST-5)	Bi-Directional	PRMS	1	\$	15,554	\$	15,554	\$	3,111
RMS EdgeFrontier Customization for LiveScan interface (RMS) (IPSRMSCUST-6-1)	Bi-Directional	ADD	4	\$	15,554	\$	62,216	\$	12,443
RMS EdgeFrontier Customization for OffenderWatch interface (RMS) (IPSRMSCUST-6)	1-way E. port (Sheriff's Office)	PRMS	1	\$	23,331	\$	23,331	\$	4,666
RMS EdgeFrontier Customization for State of Tennessee's Office (SOP) interface (RMS) (IPSRMSCUST-7)	1-way E. port	PRMS	1	\$	29,164	\$	29,164	\$	5,833
RMS EdgeFrontier Customization for DuPage Court System (DUCS) interface (RMS) (IPSRMSCUST-8)	Bi-Directional	PRMS	1	\$	93,324	\$	93,324	\$	18,665
Certis Case Probation Management interface (RMS) (IPSRMSCUST-13)	Vendor View	PRMS	1	\$	7,777	\$	7,777	\$	1,555
FBI NIBRS Submission (RMS) (IPSRMSCUST-14)		PRMS	1	\$	4,666	\$	4,666	\$	933
RMS to Informer for LEADS/NCIC Queries (IPSRMSCUST-16)		PRMS	1	\$	7,777	\$	7,777	\$	1,555
RMS to Informer for ICLEAR Queries (IPSRMSCUST-17)		PRMS	1	\$	7,777	\$	7,777	\$	1,555
RMS EdgeFrontier Customization for BEAST Interface (RMS) - for Each additional code table configuration (IPSRMSCUST-20)	Per each additional code table configuration. Assume that the data format to and from all BEAST systems is the same.	ADD	24	\$	7,575	\$	181,800		
RMS EdgeFrontier Customization for LiveScan Interface (RMS) - for Each Additional Protocol/Format. (IPSRMSCUST-21)	Per each additional Protocol/Format. Assume an import to create/update an arrest and booking record and link the two. Assume that all Livescan vendor will push data to Intergraph web service and push the data in Intergraph preferred XML format.	ADD	27	\$	7,777	\$	209,979		
WebRMS Interface Redundant Load Balanced Servers #1-3									
EdgeFrontier Runtime Engine - Redundant License (IPSR3042-RD)		PRMS	1	\$	14,000	\$	14,000	\$	3,360
Intergraph WebRMS Connect for EdgeFrontier - RDT (IPSR3043RDT)		PRMS	1		Included at no additional cost				
FBR for WebRMS Application Servers #1 and #2									
WebRMS FBR Server (RMS0028)	FBR for WebRMS Environment Server License to be installed on applicable FBR Production Application Servers	PRMS	1	\$	29,000	\$	29,000	\$	6,972
Microsoft SQL Server 2012 R2 Express (Download)		COM	2		Included at no additional cost				
FBR for WebRMS Redundant Server (#3)									
WebRMS FBR Server - Redundant License		PRMS	1	\$	20,300	\$	20,300	\$	4,284
Microsoft SQL Server 2012 R2 Express (Download)		COM	1		Included at no additional cost				
vCenter Server (Production Environment)									
Microsoft SQL Server 2012 R2 Express (Download)		COM	1		Included at no additional cost				
vSphere vCenter Server Standard for vSphere 5 - (v. 5) - license - 1 instance (includes 5 years prepaid Virtual Machine Support and Subscription Technical Support)	Production Environment (Base)	COM	1	\$	12,620	\$	12,620		
TEST ENVIRONMENT									
CAD Database / Interface / Communications Test Server									
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack	CAD Database / Interface / Communications Test Server	COM	4	\$	7,900	\$	31,600	\$	5,376
ANI-ALI (Included with I/E - exclusive) (ANI-ALI)	CAD	1			Included at no additional cost				
Master Clock Interface (XNTP)	CAD	1			Included at no additional cost				
ProQA Interface (Included with I/Dispatcher) (POA)	CAD	1			Included at no additional cost				
I/E - exclusive High Availability - Test License	CAD	1			Included at no additional cost				
1 NetViewer - 5 concurrent users - Test License	CAD	1			Included at no additional cost				
1 NetDispatcher - 5 concurrent users - Test License	CAD	1			Included at no additional cost				
1 Informer - Test License (IPSR3042CUST-IPSR0004TST)	CAD	1			Included at no additional cost				
EdgeFrontier Runtime Engine - Test License (IPSR3042-TST)	CAD	1			Included at no additional cost				
EdgeFrontier Developer Engine (IPSR3042DEV)	CAD	1	\$	15,000	\$	15,000	\$	3,600	
1 Mobile Data Terminal - Test License (IPSR0009TST)	CAD	1			Included at no additional cost				
1 Tracker - Test License (IPSR0015TST)	CAD	1			Included at no additional cost				
Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1						
WebRMS Database / Application / Interface / FBR Test Server									
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	WebRMS Database / Application / Interface / FBR Test Server	COM	4	\$	7,900	\$	31,600	\$	5,376
WebRMS FBR Server - Test License	PRMS	1			Included at no additional cost				
WebRMS Server License - Test License	PRMS	1			Included at no additional cost				
Archieve Troncat (Free Download)	COM	1			Included at no additional cost				
Crystal Reports for Enterprise	COM	1			Included at no additional cost				
Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1						
EdgeFrontier Runtime Engine - Test License (IPSR3042-TST)	PRMS	1			Included at no additional cost				
Intergraph WebRMS Connect for EdgeFrontier - TST (IPSR3043TST)	PRMS	1			Included at no additional cost				
DISASTER RECOVERY (BACKUP) ENVIRONMENT									
Backup Environment Host Servers									
Dell PowerEdge R630 - Two 22-Core Processor, 384GB RAM, VMware EnterprisePlus v5x (Q2); Dual Internal SD Cards for OS; DVD-ROM Combo Drive; Quad Port 1GB NIC; HBA; Dual Redundant Power Supplies; 6 years Pre-Paid ProSupport and Mission Critical Package (4-hours 7/24 on-site support)	Disaster Recovery Environment (Base)	COM	5	\$	33,750	\$	168,750		
Dell PowerEdge R630 - Two 22-Core Processor, 384GB RAM, VMware EnterprisePlus v5x (Q2); Dual Internal SD Cards for OS; DVD-ROM Combo Drive; Quad Port 1GB NIC; HBA; Dual Redundant Power Supplies; 6 years Pre-Paid ProSupport and Mission Critical Package (4-hours 7/24 on-site support)	Disaster Recovery Environment (Base)	ADD	1	\$	33,750	\$	33,750		
Microsoft Windows Server 2012 R2 Datacenter	Disaster Recovery Environment (Base)	COM	6	\$	5,816	\$	34,896		
CAD Database Load Balanced Disaster Recovery Servers #1-3 (cold standby)									
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	CAD Database Disaster Recovery Server #1 (cold standby)	COM	6	\$	7,900	\$	47,400	\$	8,064
I/E - exclusive High Availability - Backup License	CAD	1			Included at no additional cost				
CAD Database Load Balanced Redundant Disaster Recovery Servers #1-3 (cold standby)									
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	CAD Database Disaster Recovery Server #2 (cold standby)	COM	6	\$	7,900	\$	47,400	\$	8,064
Microsoft Visual Studio Professional 2012		COM	1	\$	580	\$	580	\$	139
CAD Archive / Reports / Web Disaster Recovery Server									
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	CAD Archive / Reports / Web Disaster Recovery Server	COM	6	\$	7,900	\$	47,400	\$	8,064
1 NetViewer - 100 concurrent users - Backup License (IPSR0042BCK)	CAD	1			Included at no additional cost				
1 NetDispatcher - 25 concurrent users - Backup License (IPSR0045BCK)	CAD	1			Included at no additional cost				
Business Intelligence Direct Disaster Recovery Servers									
BI-Direct for CAD - Backup License (SPR)	CAD	1			Included at no additional cost				
BI-Direct for WebRMS - Backup License (SPR)	PRMS	1			Included at no additional cost				
CAD Interface / Communications Disaster Recovery Servers #1 (cold standby)									
ANI-ALI (Included with I/E - exclusive) (ANI-ALI)	CAD	1			Included at no additional cost				
Master Clock Interface (XNTP)	CAD	1			Included at no additional cost				
ProQA Interface (Included with I/Dispatcher) (POA)	CAD	1			Included at no additional cost				
1 Informer - Backup License (IPSR3042CUST-IPSR0004BCK)	CAD	1			Included at no additional cost				
EdgeFrontier Runtime Engine - Backup License (IPSR3042-BCK)	CAD	1			Included at no additional cost				
1 Page - Backup License (IPSR0012BCK)	CAD	1			Included at no additional cost				
1 Telephone Device for Demetrius - Backup License (IPSR0018BCK)	CAD	1			Included at no additional cost				
Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1						
CAD Interface / Communications Disaster Recovery Servers #2 (cold standby)									

ANI-ALI (Included with ITC-ecutiv) (ANI-ALI)		CAD	1		Included at no additional cost		
Master Clock Interface (XNTP)		CAD	1		Included at no additional cost		
ProQA Interface (Included with I/Dispatcher) (PQA)		CAD	1		Included at no additional cost		
I/Informer - Backup License (IPSCAD/CUST-IPSO004BCK)		CAD	1		Included at no additional cost		
EdgeFrontier Runtime Engine - Backup License (IPSO042-BCK)		CAD	1		Included at no additional cost		
I/Pace - Backup License (IPSO012BCK)		CAD	1		Included at no additional cost		
I/Telphone Database for Data-Zenon - Backup License (IPSO018BCK)		CAD	1		Included at no additional cost		
Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Servers, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1				
Mobile Data Redundant Server #1							
I/Mobile Data Terminal - Redundant License (IPSO009RDT)		CAD	1	\$	34,280	\$	34,280
I/Tracker - Redundant License (IPSO01SRDT)		CAD	1	\$	19,478	\$	19,478
Mobile Data Redundant Server #2 (Load Balanced)							
I/Mobile Data Terminal - Redundant License (IPSO009RDT)		CAD	1	\$	34,280	\$	34,280
I/Tracker - Redundant License (IPSO01SRDT)		CAD	1	\$	19,478	\$	19,478
Mobile Data Redundant Server #3 (Load Balanced)							
I/Mobile Data Terminal - Redundant License (IPSO009RDT)		CAD	1	\$	34,280	\$	34,280
I/Tracker - Redundant License (IPSO01SRDT)		CAD	1	\$	19,478	\$	19,478
WebRMS Database Disaster Recovery Server #1							
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	WebRMS Database Disaster Recovery Server	COM	6	\$	7,900	\$	47,400
WebRMS Interface Load Balanced Disaster Recovery Servers #1-3							
EdgeFrontier Runtime Engine - Backup License (IPSO042-BCK)		PRMS	1		Included at no additional cost		
Intergraph WebRMS Connect for EdgeFrontier - BCK (IPSO043BCK)		PRMS	1		Included at no additional cost		
WebRMS Interface Load Balanced Disaster Recovery Server #1-3							
EdgeFrontier Runtime Engine - Backup License (IPSO042-BCK)		PRMS	1		Included at no additional cost		
Intergraph WebRMS Connect for EdgeFrontier - BCK (IPSO043BCK)		PRMS	1		Included at no additional cost		
WebRMS Application/Report Disaster Recovery Server #1 thru #4							
WebRMS Server License - Backup License (RMS0016BCK)		PRMS	1		Included at no additional cost		
Apache Tomcat 6 (Free Download)		COM	5		Included at no additional cost		
Crystal Reports for Eclipse		COM	5		Included at no additional cost		
WebRMS Application/Report Disaster Recovery Redundant Server (#5)							
WebRMS Server License - Backup License (RMS0016BCK)		PRMS	1		Included at no additional cost		
FBR for WebRMS Disaster Recovery Server #1 and #2							
WebRMS FBR Server - Backup License (RMS0028BCK)		PRMS	1		Included at no additional cost		
Microsoft SQL Server 2012 R2 Express (Download)		COM	4		Included at no additional cost		
FBR for WebRMS Disaster Recovery Redundant Server (#3)							
WebRMS FBR Server - Backup License (RMS0028BCK)		PRMS	1		Included at no additional cost		
Center Server (Disaster Recovery Environment)							
Microsoft SQL Server 2012 R2 Express (Download)		COM	1		Included at no additional cost		
VMware vCenter Server Standard for ESphere 5 - (v. 5) - license - 1 instance (includes 5 years prepaid VMware Support and Subscription Technical Support)	Disaster Recovery Environment (Base)	COM	1	\$	12,620	\$	12,620
CLIENT ENVIRONMENT							
ICAD Dispatcher Workstations							
I/Dispatcher (IPSO002)	Dispatcher software, Provide, callouts and dispatching functionality.	CAD	60	\$	18,375	\$	1,101,900
I/CAD Administrator / Map Maintenance Workstations							
I/Dispatcher - Test License (IPSO002TST)		CAD	1		Included at no additional cost		
I/Map Editor for ArcGIS CC (IPSO1184)		CAD	1	\$	4,007	\$	4,007
Map Administration Utility (IPSO082)		CAD	1	\$	10,500	\$	10,500
I/Incident Analyst CC v. GeoMedia Advantage CC (SBND6106L)		CAD	1	\$	9,816	\$	9,816
Mobile Data Computers							
Mobile for Public Safety - Concurrent User License (IPSO080)		CAD	275	\$	1,113	\$	973,875
Intergraph Mobile Responder Client - 10 Tablet CALs (IPSO320/A)		CAD	1	\$	3,000	\$	3,000
WebRMS FBR Client CC (RMS1129)		PRMS	350	\$	1,590	\$	556,500
WebRMS Workstations							
WebRMS Concurrent User License (RMS0017)		PRMS	700	\$	1,600	\$	1,120,000
Other Hardware and Software							
Dell 4220 42U Rack with Doors and Side Panels; 16 Amp, 120-240 Volt, PDU (qty 4); 1U KM Console with Touchpad Keyboard and 17 LCD; PowerEdge 2161 - 16 Port Keyboard/ Mouse Analog Switch; USB Server Interface Pod; 5 years maintenance	Production Environment	COM	1	\$	6,565	\$	6,565
Dell 4220 42U Rack with Doors and Side Panels; 16 Amp, 120-240 Volt, PDU (qty 4); 1U KM Console with Touchpad Keyboard and 17 LCD; PowerEdge 2161 - 16 Port Keyboard/ Mouse Analog Switch; USB Server Interface Pod; 5 years maintenance	Disaster Recovery (Backup) Environment	COM	1	\$	6,565	\$	6,565
EMC VNX 5600 (SAN) (7) 200GB Fast Cache SSD drives (42) 200GB SSD Fast VP drives (32) 1.2TB 10K SAS drives Dual Controllers with (6) fiber ports per controller Redundant Fiber channel switches with 16 ports licensed per switch 5 years maintenance	Production Environment	COM	1	\$	117,829	\$	117,829
EMC VNX 5600 (SAN) (7) 200GB Fast Cache SSD drives (42) 200GB SSD Fast VP drives (32) 1.2TB 10K SAS drives Dual Controllers with (6) fiber ports per controller Redundant Fiber channel switches with 16 ports licensed per switch 5 years maintenance	Disaster Recovery (Backup) Environment	COM	1	\$	117,829	\$	117,829
Professional Services							
Project Management Services		COM	1	\$	519,688	\$	519,688
Project Management Services (related to additional agency interface development and implementation)		ADD	1	\$	353,670	\$	353,670
CAD Implementation Services		CAD	1	\$	329,941	\$	329,941
RMS Implementation Services		PRMS	1	\$	501,949	\$	501,949
CAD Interface Implementation Services		CAD	1	\$	257,731	\$	257,731
CAD and RMS Replicated Interface Cutover Services		ADD	1	\$	81,696	\$	81,696
BI - Direct Imp Services (CAD)		CAD	1	\$	9,240	\$	9,240
BI - Direct Imp Services (WebRMS)		PRMS	1	\$	6,060	\$	6,060
CAD Data Conversion Analysis Services		CAD	1	\$	19,089	\$	19,089
RMS Data Conversion Analysis Services		PRMS	1	\$	22,422	\$	22,422
CAD Load/Stress Tests		CAD	1	\$	1,515	\$	1,515
CAD Support for Ability to Import Run Cards		CAD	1	\$	4,545	\$	4,545
Mobile Responder Implementation Services		CAD	1	\$	15,150	\$	15,150
Training		COM	1	\$	172,104	\$	172,104
Planning Services							
ICAD Deployment Planning and Configuration (IPST1003)		CAD	1	\$	11,514	\$	11,514
ICAD Essentials for Core Team (IPST2001)		CAD	1	\$	11,514	\$	11,514
ICAD Reassessment (IPST2006)		CAD	1	\$	9,999	\$	9,999
ICAD Essentials for Trainers (IPST2011)		CAD	4	\$	11,514	\$	45,556
INetVicar - I/NetDispatcher for Trainers (IPST2404)		CAD	1	\$	8,484	\$	8,484
ICAD System Administration & Maintenance Essentials (IPST9003)		CAD	1	\$	11,514	\$	11,514
Map Fundamentals Workshop for ICAD Systems (IPST1002)		CAD	1	\$	8,484	\$	8,484
Map Basics for ICAD Systems (IPST8001)		CAD	1	\$	11,514	\$	11,514
Map Maintenance for ICAD Systems (IPST8003)		CAD	1	\$	9,999	\$	9,999
Map Roll Consulting for ICAD Systems (IPST8004)		CAD	1	\$	11,514	\$	11,514
MPS Reassessment (IPST2007)		CAD	2	\$	11,514	\$	23,028

MPS Workflow and Configuration Workshop I (IPST2502)		CAD	2	\$	23,028	\$	46,056	
MPS Workflow and Configuration Workshop II (IPST2502)		CAD	2	\$	11,514	\$	23,028	
MPS Workflow and Configuration Workshop III (IPST2502)		CAD	2	\$	11,514	\$	23,028	
MPS for Trainers (IPST2503)		CAD	4	\$	6,969	\$	27,876	
Incident Analyst Configuration and Administration (IPST2501)		CAD	1	\$	11,514	\$	11,514	
Incident Analyst User Training (IPST2502)		CAD	1	\$	8,484	\$	8,484	
BI Direct for CAD - System Administrator Training (IPST7005)		CAD	1	\$	5,454	\$	5,454	
BI Direct for CAD - User Training (IPST7009)	User training conducted the same week as Sys Admin Training for BI	CAD	1	\$	4,545	\$	4,545	
BI Direct for WebRMS - User Training (IPST3300)		PRMS	1	\$	5,454	\$	5,454	
BI Direct for WebRMS - System Administrator Training (IPST3301)	User training conducted the same week as Sys Admin Training for BI	PRMS	1	\$	4,545	\$	4,545	
WebRMS System Overview & Configuration Training (IPST3501)		PRMS	1	\$	9,999	\$	9,999	
FBR for WebRMS System IT Administrative Training (IPST4010)		PRMS	1	\$	9,999	\$	9,999	
FBR System Overview and Configuration Training (IPST4011)		PRMS	1	\$	9,999	\$	9,999	
WebRMS System Administrative Training Course (IPST3502)		PRMS	1	\$	9,999	\$	9,999	
WebRMS Train-The-Trainer Training (IPST3503)		PRMS	4	\$	11,514	\$	46,056	
FBR for WebRMS Train-The-Trainer Training (IPST4012)		PRMS	4	\$	9,999	\$	39,996	
WebRMS Reports and Deployment (IPST3504)		PRMS	1	\$	9,999	\$	9,999	
EdgeFrontier Developer Training		COM	1	\$	20,050	\$	20,050	
Shipping, Installation, Bonds, Escrow, Insurance, Warranty:								
Shipping and Insurance		COM	1	\$	6,914	\$	6,914	
Escrow Administration fee per year		COM	1	\$	500	\$	500	500
Business Intelligence software warranty during implementation period		COM	1	\$	7,758	\$	7,758	
Hardware Staging & Installation Services		COM	1	\$	63,438	\$	63,438	
Hardware Staging & Installation Services		ADD	1	\$	14,987	\$	14,987	
TOTAL SYSTEM BASE PRICE:								
Sub-Total Exclusive of Discount, Extended Warranty, Maintenance, Options & Taxes								
<i>One Time System Discount for initial purchase only</i>								
Sub-Total Exclusive of Extended Warranty, Maintenance, Options & Taxes								
<i>First Year Intergraph Maintenance (Extended Software Warranty)</i>								
<i>Discount on First Year Intergraph Maintenance</i>								
<i>First Year Third Party Maintenance (Extended Software Warranty)</i>								
Grand Total Exclusive of Taxes								
<i>1st Year - employee assumed</i>								
Second Year 3rd Party Software Maintenance after warranty		COM	1	\$	104,936	\$	104,936	
Second Year Intergraph Software Maintenance after warranty		COM	1	\$	1,116,963	\$	1,116,963	
Maintenance Year 2 - Upgrade Program (First Upgrade - Installation 1 of 3)		CAD	1	\$	100,000	\$	100,000	
Third Year 3rd Party Software Maintenance		COM	1	\$	110,204	\$	110,204	
Third Year Software Maintenance		COM	1	\$	1,172,816	\$	1,172,816	
Hardware Staging & Installation Services for Hardware Refresh during maintenance		COM	1	\$	34,596	\$	34,596	
Maintenance Year 3 - Upgrade Program (First Upgrade - Installation 2 of 3)		CAD	1	\$	100,000	\$	100,000	
Fourth Year 3rd Party Software Maintenance		COM	1	\$	115,714	\$	115,714	
Fourth Year Software Maintenance		COM	1	\$	1,231,457	\$	1,231,457	
Maintenance Year 4 - Upgrade Program (First Upgrade - Installation 3 of 3)		CAD	1	\$	100,000	\$	100,000	
Fifth Year 3rd Party Software Maintenance		COM	1	\$	121,500	\$	121,500	
Fifth Year Software Maintenance		COM	1	\$	1,293,030	\$	1,293,030	
Total for Additional Four Years' Maintenance after Extended Warranty								
CAD Sub-System								
Police RMS Sub-System		PRMS	1	\$	2,901,736	\$	2,901,736	
Additional Agency Costs		ADD	1	\$	1,013,206	\$	1,013,206	
Common Items	(PM Software, Escrow, Shipping, Third Party, etc.)	COM	1	\$	2,643,912	\$	2,643,912	
System Discounts		DIS	1	\$	(3,006,395)	\$	(3,006,395)	
Total Price for Complete System								
Optional Intergraph Services								
<i>Project management services are not included and implementation services are estimated. Third party products price as quoted for each product. Intergraph can provide a final quote when optional items are selected.</i>								
CAD Fit & Gap		CAD	1	\$	98,071	\$	98,071	
CAD Requirements Analysis, Design		CAD	1	\$	147,359	\$	147,359	
WebRMS Fit & Gap Analysis		PRMS	1	\$	35,754	\$	35,754	
WebRMS Requirements Analysis, Design		PRMS	1	\$	61,358	\$	61,358	
CAD Resident Systems Analyst (Year 1)		CAD	1	\$	245,174	\$	245,174	
RMS Resident Systems Analyst (Year 1)		PRMS	1	\$	245,174	\$	245,174	
Optional Intergraph Standard Products and Interfaces								
IFRMS-CADLink (IPSD048-2)	Fire Programs FireRMS	CAD	1	\$	11,130	\$	11,130	2,304
ICADLink to RMS (IPSD051-1)	ICLEAR	CAD	1	\$	11,130	\$	11,130	2,304
ICADLink to RMS (IPSD051)	Imagotrend	CAD	1	\$	11,130	\$	11,130	2,304
IFRMS-CADLink (IPSD048)	Zoll FireRMS	CAD	1	\$	11,130	\$	11,130	2,304
IFRMSLink for Zoll - Per additional endpoint/third-party database (IPSCADCUST-12)		ADD	1	\$	1,444	\$	1,444	
Optional Intergraph Developed Interfaces								
CAD EdgeFrontier Custom Interface for Police Alerts: False Alarm Billing data transfer from CAD to WebRMS (IPSCADCUST-5)		CAD	1	\$	14,444	\$	14,444	2,889
RMS EdgeFrontier Customization for D3CRA interface (RMS) (IPSRMSCUST-2)	1-way Import	PRMS	1	\$	23,331	\$	23,331	4,666
RMS EdgeFrontier Customization for Trimble - Visual Statement interface (RMS) (IPSRMSCUST-3)	1-way Import	PRMS	1	\$	23,331	\$	23,331	4,666
RMS EdgeFrontier Customization for CopLogic Interface (IPSRMSCUST-10)	1-way Import	PRMS	1	\$	23,331	\$	23,331	4,666
RMS EdgeFrontier Customization for Leis-Nolis interface (RMS) (IPSRMSCUST-18)	1-way accident Import from multiple agency databases. Assume that Leis-Nolis vendor will push data to Intergraph web service and push the data in Intergraph preferred XML format.	PRMS	1	\$	58,328	\$	58,328	11,666
RMS EdgeFrontier Customization for APPRISS interface (RMS) (IPSRMSCUST-19)	1-way accident import from multiple agency databases. Assume that APPRISS vendor will push data to Intergraph web service and push the data in Intergraph preferred XML format.	PRMS	1	\$	58,328	\$	58,328	11,666
RAIDS Online interface (RMS) (IPSRMSCUST-12)		PRMS	1	\$	3,889	\$	3,889	778
RMS EdgeFrontier Customization for Import Interface for Prawn Information from LeadsOnline (IPSRMSCUST-11)	1-way Import	PRMS	1	\$	23,331	\$	23,331	4,666
Custom Services for Informer Query Interface for LeadsOnline (IPSCADCUST-IPSD004-D)	Query Interface	CAD	1	\$	43,332	\$	43,332	8,666
RMS Customization for Illinois State Specific UCR Reports (IPSRMSCUST-11-1)	UCR Federal Standard would be delivered as the COTS form of the UCR utility	PRMS	1	\$	62,216	\$	62,216	12,443
RMS EdgeFrontier Customization for I-DEX submission support (IPSRMSCUST-9)	1-way Export	PRMS	1	\$	35,885	\$	35,885	7,177
CAD Interface to NICE (Vendor View) (IPSCADCUST)	Consulting services to assist third party with accessing CAD Vendor View	CAD	1	\$	1,444	\$	1,444	
IDOT Interface (RMS) (IPSRMSCUST-15)		PRMS	1	\$	62,216	\$	62,216	12,443
CAD EdgeFrontier Custom Interface to Security Information Systems (SIS) Alarm System (IPSCADCUST-1)		CAD	1	\$	14,444	\$	14,444	2,889
CAD EdgeFrontier Custom Interface to Security Information Systems (SIS) Alarm System - Per additional agency database instance (IPSCADCUST-6)	Per additional agency database instance	ADD	3	\$	7,792	\$	23,375	4,675
Optional CAD/WebRMS Training, Environment								
ANI-ALI (Included with IF Executive) (ANI-ALI)		CAD	1		Included at no additional cost			
Master Clock Interface (XNTIP)		CAD	1		Included at no additional cost			
PICQ - Interface (Included with I/DISPATCHER) (PICQ)		CAD	1		Included at no additional cost			
IF Executive High Availability - Training License		CAD	1	\$	36,729	\$	36,729	16,800
IFNetViewer - 5 concurrent users - Training License		CAD	1	\$	5,565	\$	5,565	2,304
IFNetDispatcher - 5 concurrent users - Training License		CAD	1	\$	13,913	\$	13,913	5,724

EdgeFrontier Runtime Engine - Training License (IPSC3043-TRN)		CAD	1	\$	10,000	\$	10,000	\$	4,300
Informant - Training License (IPSCADCUST-IPSC0094TRN)		CAD	1	\$	12,243	\$	12,243	\$	5,064
Mobile Data Terminal - Training License (IPSC062TRN)		CAD	1	\$	24,486	\$	24,486	\$	10,122
Tracker - Training License (IPSC0015TRN)		CAD	1	\$	13,913	\$	13,913	\$	5,724
WebRMS Server License - Training License		PRMS	1	\$	43,500	\$	43,500	\$	20,820
WebRMS FBR Server - Training License		PRMS	1	\$	14,500	\$	14,500	\$	5,972
Apache Tomcat 6 (Free Download)		COM	1		Included at no additional cost				
Crystal Reports for Eclipse		COM	1		Included at no additional cost				
EdgeFrontier Runtime Engine - Training License (IPSC3043-TRN)		PRMS	1	\$	10,000	\$	10,000	\$	4,000
Intergraph WebRMS Connect for EdgeFrontier - TRN (IPSC2043TRN)		PRMS	1		Included at no additional cost				
Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.			1						
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack (7LQ-00001)	WebRMS Database / Application / Interface / FBR Training Server	COM	4	\$	7,900	\$	31,600	\$	5,376
Microsoft SQL Server 2012 ENT Edition RUNTIME - 2 core pack	CAD Database / Interface / Communication / Training Server	COM	4	\$	7,900	\$	31,600	\$	5,376
Optional Intergraph Mobile Solutions									
Intergraph Mobile Responder Client - 100 Tablet CALs (IPSC3204B)		CAD	1	\$	22,500	\$	22,500	\$	5,160
Intergraph Mobile Responder Client - 500 Tablet CALs (IPSC3204D)		CAD	1	\$	101,250	\$	101,250	\$	23,160
Intergraph Mobile Responder Client - 100 Smartphone CALs (IPSC3205B)		CAD	1	\$	15,000	\$	15,000	\$	3,432
Intergraph Mobile Responder Client - 500 Smartphone CALs (IPSC3205D)		CAD	1	\$	67,500	\$	67,500	\$	15,444
Optional Training									
ICAD Essentials for Users (TTU) (IPST2004)		CAD	1	\$	11,514	\$	11,514		
ICAD Trainer Consulting (TTT) (IPST-010)	Custom Training Documents	CAD	1	\$	19,089	\$	19,089		
ICAD Trainer Consulting (TTT) (IPST2010)	Refresher Training Prep	CAD	1	\$	11,514	\$	11,514		
WebRMS Customized Training (IPST4000) - SI: Month Refresher		PRMS	1	\$	9,090	\$	9,090		
Total Price for All Options						\$	1,858,585	\$	244,856

Notes:

1. An overall system discount has been provided for this opportunity. This discount is applicable only to Intergraph Products and Services. Third-Party content is not discounted. Changes to scope of the final contract may change the discount amount. Also, any credits given for line items as part of a Change Order will include a reduction for the line prorated amount of the one-time system discount. Items removed after contract signing will result in a contract credit for future Intergraph software and services being established, not a contract reduction. This discount is based on the acceptance of Intergraph's standard Terms and Conditions.
2. Unless otherwise noted, project management services, implementation services and software maintenance ARE NOT included in option pricing. Intergraph services are valid for 6 months and Intergraph product pricing is valid for one year after contract signing. Pricing for optional third party products and services are valid for 90 days from the date on this pricing proposal. Intergraph can provide a fixed quote when optional items are selected.
3. Standard and Custom Interfaces - Test, Training, Redundant and Backup Copies of proposed interfaces are available for all Interface Server, however, implementation is subject to the customer's ability to provide connection to the applicable system.
4. Intergraph has based its WebRMS license offering upon the following assumption: The number of users indicated as requiring RMS access (2,000) is the total number of users. The County would have no more than 1/3 of its total number of users logged on to RMS workstations at any one time for purposes including, but not limited to records management, reporting, and crime analysis. The quantity and price of client user licenses will be adjusted to reflect actual usage at time of contract negotiation.
5. Sales tax is not included in this quote. Final sales tax billed will reflect the applicable tax rates at time of sale as required by law.
6. EdgeFrontier Developer License can be installed on up to two separate servers for use in the development of CAD and RMS Interfaces. The Developer Instance of the license is usually installed on the Test Interface Server.

Estimated Fiscal Years																											
AGENCY COST SUMMARY June 1 2016		FY16		FY17		FY18		FY19		FY20		FY21		FY22		FY23		Agency Specific Interfaces		Fiber Network Cost		# Users		% Total		Total Equipment Replacement Contribution	
TOTAL		FY16 NetRMS		FY17 NetRMS		FY18 NetRMS		New RIMS Capital		New RIMS		FY20		FY21		FY22		FY23		FY21		FY22		FY23		FY23	
ADDITION POLICE	\$ 601,713.45	\$ 132.24	\$ 50.46	\$ 57.35	\$ 1,115.13	\$ 707.91	\$ 718.25	\$ 733.12	\$ 741.61	\$ 764.75	\$ 82,592.87	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
ADDITION POLICE	\$ 42,374.76	\$ 14,930.40	\$ 5,499.61	\$ 6,192.05	\$ 120,710.03	\$ 76,451.97	\$ 77,570.86	\$ 79,176.96	\$ 80,849.94	\$ 82,592.87	\$ 82,592.87	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
BENEFIT POLICE	\$ 228,710.10	\$ 7,465.20	\$ 2,724.80	\$ 3,095.02	\$ 60,395.01	\$ 38,226.99	\$ 38,785.43	\$ 39,538.48	\$ 40,424.97	\$ 41,296.44	\$ 41,296.44	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
BENEFIT POLICE	\$ 115,151.55	\$ 1,654.33	\$ 605.51	\$ 684.01	\$ 13,131.11	\$ 5,499.61	\$ 5,618.98	\$ 5,737.14	\$ 5,855.29	\$ 5,973.44	\$ 6,091.59	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
BURR RIDGE POLICE	\$ 217,818.91	\$ 11,471.59	\$ 4,185.12	\$ 4,795.20	\$ 92,224.27	\$ 58,756.75	\$ 59,614.61	\$ 60,472.47	\$ 61,330.33	\$ 62,188.19	\$ 63,046.05	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
CAROL STREAM POLICE	\$ 475,785.07	\$ 11,471.59	\$ 4,185.12	\$ 4,795.20	\$ 92,224.27	\$ 58,756.75	\$ 59,614.61	\$ 60,472.47	\$ 61,330.33	\$ 62,188.19	\$ 63,046.05	\$ 19,643	\$ 38,064	108	5.33	\$ 3,000,000.00											
CLARENDON HILLS POLICE	\$ 121,997.68	\$ -	\$ -	\$ -	\$ 16,776.99	\$ 10,618.61	\$ 10,773.73	\$ 10,928.85	\$ 11,083.97	\$ 11,239.09	\$ 11,394.21	\$ 12,068	\$ 38,064	15	0.74	\$ 22,222.22											
COLLEGE OF DU PAGE POLICE	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-	-	\$ -											
DAREN POLICE	\$ 270,389.11	\$ 6,082.76	\$ 2,220.21	\$ 2,521.69	\$ 48,210.75	\$ 31,147.92	\$ 31,602.94	\$ 32,057.96	\$ 32,512.98	\$ 32,967.99	\$ 33,423.01	\$ 19,643	\$ 38,064	44	2.17	\$ 65,185.19											
DOWNEY POLICE	\$ 527,291.78	\$ -	\$ -	\$ -	\$ 109,605.76	\$ 69,274.30	\$ 70,383.11	\$ 71,491.92	\$ 72,600.73	\$ 73,709.54	\$ 74,818.35	\$ 19,643	\$ 38,064	99	3.64	\$ 145,185.19											
DU PAGE FOREST PRESERVE POLICE	\$ 146,888.67	\$ 4,009.09	\$ 1,463.32	\$ 1,662.68	\$ 32,434.36	\$ 20,529.31	\$ 20,829.31	\$ 21,129.31	\$ 21,429.31	\$ 21,729.31	\$ 22,029.31	\$ 19,643	\$ 38,064	29	1.43	\$ 42,862.86											
DU PAGE SHERIFF OFFICE	\$ 36,946.59	\$ 14,179.03	\$ 5,179.03	\$ 5,946.59	\$ 31,277.25	\$ 19,277.25	\$ 20,327.25	\$ 20,829.31	\$ 21,331.31	\$ 21,833.31	\$ 22,335.31	\$ 19,643	\$ 38,064	29	1.43	\$ 42,862.86											
DU PAGE STATES ATTORNEY	\$ 72,430.30	\$ 414.73	\$ 131.38	\$ 171.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 136.09	\$ 38,064	29	1.43	\$ 42,862.86											
DU PAGE CIRCUIT CLERK	\$ 186,648.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 136.09	\$ 38,064	29	1.43	\$ 42,862.86											
DU PAGE COUNTY PROBATION	\$ 15,554.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 136.09	\$ 38,064	29	1.43	\$ 42,862.86											
ELMHURST POLICE	\$ 75,121.97	\$ 13,547.96	\$ 4,915.01	\$ 5,615.71	\$ 109,605.76	\$ 69,274.30	\$ 70,383.11	\$ 71,491.92	\$ 72,600.73	\$ 73,709.54	\$ 74,818.35	\$ 19,643	\$ 38,064	76	3.81	\$ 145,185.19											
GLEN ELYN POLICE	\$ 354,886.60	\$ 8,156.42	\$ 2,977.10	\$ 3,382.69	\$ 65,987.14	\$ 41,755.52	\$ 42,376.67	\$ 43,254.08	\$ 44,131.49	\$ 45,008.90	\$ 45,886.31	\$ 19,643	\$ 38,064	69	2.91	\$ 87,407.41											
GLENDALE HEIGHTS POLICE	\$ 187,617.66	\$ 10,921.31	\$ 3,986.29	\$ 4,592.27	\$ 12,355.67	\$ 5,526.67	\$ 5,674.65	\$ 5,822.63	\$ 5,970.61	\$ 6,118.59	\$ 6,266.57	\$ 19,643	\$ 38,064	79	3.70	\$ 117,087.04											
HANOVER PARK POLICE	\$ 539,528.58	\$ 13,409.71	\$ 4,894.55	\$ 5,561.37	\$ 108,487.34	\$ 68,666.99	\$ 69,670.13	\$ 71,112.64	\$ 72,555.15	\$ 74,000.66	\$ 75,446.17	\$ 19,643	\$ 38,064	97	4.79	\$ 143,703.70											
HINSDALE POLICE	\$ 274,405.22	\$ 4,751.56	\$ 1,766.08	\$ 2,066.68	\$ 52,448.32	\$ 32,776.75	\$ 33,433.70	\$ 34,090.65	\$ 34,747.60	\$ 35,404.55	\$ 36,061.50	\$ 19,643	\$ 38,064	38	1.79	\$ 51,481.85											
IRASCA POLICE	\$ 223,971.02	\$ 4,562.07	\$ 1,665.16	\$ 1,892.01	\$ 36,908.06	\$ 23,360.94	\$ 23,702.21	\$ 24,043.48	\$ 24,384.75	\$ 24,726.02	\$ 25,067.29	\$ 19,643	\$ 38,064	33	1.63	\$ 48,888.89											
LIBERTY POLICE	\$ 310,698.61	\$ 7,050.27	\$ 1,573.13	\$ 1,824.02	\$ 57,039.73	\$ 36,103.77	\$ 36,600.68	\$ 37,097.59	\$ 37,594.50	\$ 38,091.41	\$ 38,588.32	\$ 19,643	\$ 38,064	33	1.63	\$ 48,888.89											
LOMBARD POLICE	\$ 77,855.15	\$ 552.98	\$ 201.84	\$ 225.34	\$ 4,473.73	\$ 2,831.63	\$ 2,872.99	\$ 2,914.35	\$ 2,955.71	\$ 2,997.07	\$ 3,038.43	\$ 19,643	\$ 38,064	4	0.20	\$ 5,925.93											
MARSHFIELD POLICE	\$ 1,041,145.00	\$ -	\$ -	\$ -	\$ 2,101,612.62	\$ 1,322,200.01	\$ 1,343,333.33	\$ 1,364,466.67	\$ 1,385,600.00	\$ 1,406,733.33	\$ 1,427,866.67	\$ 12,068	\$ 38,064	216	10.63	\$ 714,515.52											
OAK BROOK POLICE	\$ 345,068.60	\$ 8,018.18	\$ 2,926.64	\$ 3,325.36	\$ 64,860.72	\$ 41,058.62	\$ 41,658.43	\$ 42,258.24	\$ 42,858.05	\$ 43,457.86	\$ 44,057.67	\$ 19,643	\$ 38,064	58	2.86	\$ 85,925.93											
ROSELLE POLICE	\$ 215,568.29	\$ 1,385.51	\$ 1,564.24	\$ 1,722.35	\$ 34,671.21	\$ 21,945.12	\$ 22,265.71	\$ 22,586.30	\$ 22,906.89	\$ 23,227.48	\$ 23,548.07	\$ 19,643	\$ 38,064	21	1.33	\$ 45,925.93											
ROSELLE POLICE	\$ 270,338.11	\$ 6,082.76	\$ 2,220.21	\$ 2,521.69	\$ 43,210.75	\$ 31,147.92	\$ 31,602.94	\$ 32,057.96	\$ 32,512.98	\$ 32,967.99	\$ 33,423.01	\$ 19,643	\$ 38,064	44	2.17	\$ 65,185.19											
WILLOW BROOK POLICE	\$ 319,679.40	\$ 7,018.15	\$ 2,566.64	\$ 2,825.26	\$ 64,968.71	\$ 41,058.62	\$ 41,658.43	\$ 42,258.24	\$ 42,858.05	\$ 43,457.86	\$ 44,057.67	\$ 19,643	\$ 38,064	58	2.86	\$ 85,925.93											
WARRENVILLE POLICE	\$ 244,078.42	\$ 5,115.04	\$ 1,867.00	\$ 2,121.35	\$ 41,381.77	\$ 26,192.56	\$ 26,575.20	\$ 27,125.44	\$ 27,675.68	\$ 28,225.92	\$ 28,776.16	\$ 19,643	\$ 38,064	37	1.83	\$ 54,814.81											
WEST SHORE POLICE	\$ 530,508.40	\$ 7,018.15	\$ 2,566.64	\$ 2,825.26	\$ 64,968.71	\$ 41,058.62	\$ 41,658.43	\$ 42,258.24	\$ 42,858.05	\$ 43,457.86	\$ 44,057.67	\$ 19,643	\$ 38,064	58	2.86	\$ 85,925.93											
WESTMONT POLICE	\$ 218,640.14	\$ -	\$ -	\$ -	\$ 61,513.44	\$ 38,954.89	\$ 39,503.68	\$ 40,052.47	\$ 40,601.26	\$ 41,150.05	\$ 41,698.84	\$ 12,068	\$ 38,064	55	2.72	\$ 81,481.48											
WHEATON POLICE	\$ 218,640.14	\$ -	\$ -	\$ -	\$ 61,513.44	\$ 38,954.89	\$ 39,503.68	\$ 40,052.47	\$ 40,601.26	\$ 41,150.05	\$ 41,698.84	\$ 12,068	\$ 38,064	55	2.72	\$ 81,481.48											
WILLOW BROOK POLICE	\$ 184,291.48	\$ -	\$ -	\$ -	\$ 102,695.21	\$ 65,127.47	\$ 66,013.82	\$ 66,900.17	\$ 67,786.52	\$ 68,672.87	\$ 69,559.22	\$ 19,643	\$ 38,064	55	2.72	\$ 81,481.48											
WINFIELD POLICE	\$ 155,528.81	\$ 3,626.61	\$ 952.72	\$ 1,089.34	\$ 71,250.10	\$ 45,450.26	\$ 46,336.61	\$ 47,222.96	\$ 48,109.31	\$ 49,000.66	\$ 49,887.01	\$ 12,068	\$ 38,064	28	1.38	\$ 41,481.48											
WOOD DALE POLICE	\$ 304,524.61	\$ 6,775.98	\$ 2,472.51	\$ 2,809.35	\$ 54,902.88	\$ 34,687.45	\$ 35,194.19	\$ 35,700.93	\$ 36,207.67	\$ 36,714.41	\$ 37,221.15	\$ 19,643	\$ 38,064	49	2.42	\$ 72,592.59											
WOODRIDGE POLICE	\$ 277,642.94	\$ 8,709.40	\$ 3,076.34	\$ 3,517.03	\$ 70,460.95	\$ 44,598.15	\$ 45,579.67	\$ 46,561.19	\$ 47,542.71	\$ 48,524.23	\$ 49,505.75	\$ 19,643	\$ 38,064	60	2.13	\$ 91,932.33											
Total	\$ 12,135,083.16	\$ 218,286.00	\$ 79,675.28	\$ 90,530.00	\$ 2,264,813.00	\$ 1,433,512.00	\$ 1,454,453.64	\$ 1,475,395.28	\$ 1,496,336.92	\$ 1,517,278.56	\$ 1,538,220.20	\$ 901,977.52	\$ 1,142,713.00	2025	100.00												



DuPage Digital Justice Information System RMS Staffing Overview

This document describes the recommended staffing for RMS based on Intergraph recommendations and DuPage County Human Resource job descriptions and salary matrix.

It is anticipated that these positions will be hired near the mid-range of the matrix. This could be adjusted up if the candidate has substantial experience in the Intergraph product.

Position	Salary Grade	Salary Range		
		Low	Mid	High
RMS Manager	315	\$71,821	\$95,760	\$119,700
Data Base Administrator	314	\$62,305	\$83,075	\$103,843
Report Writing Specialists (2)	312	\$48,137	\$64,184	\$80,228

The dollars included in the Agency Estimated Costs is:

Position	Salary Grade	Salary Range		
		Salary	Benefit (40%)	Total
RMS Manager	315	\$100,000	\$40,000	\$140,000
Data Base Administrator	314	\$80,000	\$32,000	\$112,000
Report Writing Specialists (2)	312	\$60,000	\$24,000	\$84,000

The salary calculations included in the Agency Cost Estimate include forty percent (40%) for benefits. In addition a two percent (2%) COLA has been added to each year of the program. Although not guaranteed, this COLA is consistent with DuPage County past practice and is only included to allow you budget appropriately.

It is important to remember that these are estimates based on known practices and information. It is possible that these costs could be lower.

RMS Manager:

The employee in this class is responsible for implementing, planning, managing and directing the DuPage County Justice Information System Law Enforcement Records Management System ("Records Management System") Employee manages the appropriate relationships, budget, projects and staffs within the department. Work requires the ability to exercise a high degree of technical expertise and competency in order to effectively research, recommends and implement a records management system that successfully meets the needs of all Elected Officials, Municipal Governments, County Departments, and Quasi-Governmental Organizations. Administrative direction is received from the Chief Information Officer. Management direction is provided to subordinate manager/supervisors.

As project manager for this system, this position will be responsible for overseeing all on-site project related activities and for assisting the Intergraph Project Manager in developing and managing implementation schedules and coordinating activities and personnel.

Data Base Manager:

The use of the system administration tools within the applications is included in training. However, this position should be filled by resources fully trained in database management and system maintenance. This position reports to the RMS Manager.

Report Writing Specialists:

Ability and background to create custom reports based on defined content provided by administrative and supervisory personnel. Report Writing Specialists should be familiar with the database structure. Knowledge of SQL would be a definite advantage. This position reports to the RMS Manager.



DuPage Digital Justice Information System Additional Cost Worksheet

As stated in the cover letter, DuPage ETSB will be providing the CAD system including the mobile software/interface and the initial funding (with a reimbursement schedule) for RMS and interfaces ("Friends of CAD") not specific to the delivery of 911 services. The following additional costs have also been identified:

CPU/Mobile Hardware:

In order to operate properly with the new CAD system. Hardware that does not meet the specifications below will not be allowed on the system. Hardware should have the following specifications:

Mobile Computers:

Windows 7 Pro, 64 bit I3 or greater processor
4GB RAM
80 GB HD
1,024x768 resolution
Centronics port for printing (if appropriate)
Network connection (if to be docked on the network)
Touch Screen Preferred.

WebRMS Workstations (desk tops) or CPUs:

Windows 7 Pro, 64 bit

DuPage ETSB will do an RFP for hardware to facilitate a purchasing contract for equipment. Each agency will be responsible to fund any replacement hardware for mobile or desk top computers. The goal would be to receive all of the equipment so that tech personnel can load and configure the hardware properly prior to deployment/implementation. The letter of intent will have a handout that asks for the number of devices you would be replacing in order to provide a range for the RFP. This RFP will be let as soon as data is collected.

Network:

The Technology Team for this project is working on a RFP to replace the SONET. CAD and Friends of CAD as well as Customer Premise Equipment (CPE-the 911 call handling devices) will run on this network. DuPage ETSB will pay for the connections between the PSAPs (with the exception of Naperville). Connectivity in the network for RMS and any other interfaced systems will be the responsibility of user agency. The RFP was let and returned May 31, 2016. The RFP will ask for several connectivity options. User agencies will have the opportunity to select their preferred network connection. This information is provided to user participants to assist with overall costs. It is an option and participant users may do their own connection but it will have to be approved by ETSB before it can connect into the system or a PSAP. This approval is only to ensure network system capacity and stability.

Wireless Network for Mobile Terminals:

DuPage ETSB will continue to fund the cost of the wireless interface. This RFP will be for air cards (or wireless activation assuming mobiles have internal wireless capability). While user agencies may currently have their own contracts for this service, the hope is that a county-wide contract may reduce the cost to the user agencies.

Fire Station Alerting:

DuPage ETSB is working with the Fire work group and will let an RFP to determine the feasibility of an updated, interoperable fire station alerting system.



DuPage Digital Justice Information System Address Point File Workflow Description

The new CAD system will be X/Y coordinate driven. For this reason the GIS map will be a critical piece of the core data base. This document will describe the workflow steps for updating the countywide address point file that will be used by E911 and other taxing organizations within DuPage County.

Municipal and County Input:

To create the new GIS map, agency participants that have address point data in either ESRI Geodatabase or ESRI shapefile should submit these files via etsb911@ducomm.org. This would also be the time to update any boundaries, police beats/zones, fire beats/zones. If you do not have this data, please submit a Trakit ticket, indicating this so that the GIS team can work with you to ensure your information is ready for the new system.

Once the system is implemented, each agency participant will be submitting their address point file updates through a web based GIS application. The users will be able to add their address updates through a map interface. Update and edit tools will be provided within the application. A workflow map is provided.

Address Update & Approval to E911:

Once the updated address points are complete an email and or other form of notification will be sent to ETSB GIS staff. At this step, the tentative point address will be reviewed and cross referenced by the MSAG data. If the address does not meet the standard needed for E911, the ETSB GIS staff will work with the respective municipality to correct and workout any issues that have arisen in the data review.

If the address does not meet the business rules established by the Tech Committee based on software capability, a respective municipal entity or the County may be asked to make a requested correction due to a discrepancy in the addressing. It is important that participants work with the GIS Team prior to annexations to avoid unnecessary delays in the annexation process or 911 mapping entry for an address within our service area.

When an address or corrected address is complete, another review will take place by ETSB GIS staff. Once the address is reviewed, approved and posted, this address point data will be uploaded to the Intergraph CAD system and also be available to others for their various address mapping needs.

Various Types of Data:

There is a county-wide address point file. We have completed all the unincorporated areas within DuPage County and we are currently obtaining address point data from all of the County's incorporated municipal governments. To date, 16 out of the 32 municipal entities address data here in DuPage County and are currently appending them to the county wide address point file. Once we have the county address point file appended and completed with all of the address data, we will be able to share this data back to those entities that did not have a GIS format.

Recommendation:

One of the greatest challenges to any GIS map and CAD software is the alpha numeric address (i.e. 21W241). Going forward we would recommend that participants adopt ordinances to eliminate this type of addressing.

VILLAGE OF WILLOWBROOK

BOARD MEETING AGENDA ITEM - HISTORY/COMMENTARY

ITEM TITLE:

AN ORDINANCE AUTHORIZING THE MAYOR AND VILLAGE CLERK TO ACCEPT AND EXECUTE A PROPOSAL FOR HOTEL TROLLEY SHUTTLE SERVICES – THE TROLLEY CAR & BUS COMPANY

AGENDA NO.

10

AGENDA DATE: 6/27/16

STAFF REVIEW: Carrie Dittman, Director of Finance

SIGNATURE:

Carrie Dittman

LEGAL REVIEW: Thomas Bastian, Village Attorney

SIGNATURE:

Tom Bastian

RECOMMENDED BY: Trustee Gayle Neal

SIGNATURE:

Gayle Neal

REVIEWED & APPROVED BY HOTEL COMMISSION: YES ☒ 5/24/2016

NO ☐ N/A ☐

ITEM HISTORY (PREVIOUS VILLAGE BOARD REVIEWS, ACTIONS RELATED TO THIS ITEM, OTHER HISTORY)

The Village, in partnership with the Hotel/Motel Tax Advisory Committee, has been exploring ways to enhance tourism in the Village and best utilize the hotel/motel taxes collected from the Village's hotels. One area of need considered by the hotels was a means of transporting hotel guests around the Village to restaurants and shopping. As none of the hotels currently offers a shuttle bus, guests without transportation have been unable to fully enjoy the dining and shopping opportunities in the Village. Village staff began researching possible solutions to this issue and contacted other municipalities that offer a shuttle.

The Trolley Car and Bus Company provides a weekend trolley service to the City of Elmhurst, and after several discussions with the company and the local hotels, a route and estimated days/times of operations were considered. The Village hosted a "dry run" tour of the proposed route for the hotel managers and committee members on May 24, driven on an actual trolley as provided by the Trolley Car and Bus Company. Village staff and elected officials have contacted the business/shopping center owners to discuss the concept and obtain permission to stop, with the response being positive.

ITEM COMMENTARY (BACKGROUND, DISCUSSION, RECOMMENDATIONS, ETC.)

The Village plans to offer the trolley service to hotel/motel guests on summer weekends from July 1 – September 11, 2016. The hours will be Fridays, 6:00pm – 10:00pm, Saturdays, 11:00 am – 11:00 pm, and Sundays, 11:00 am – 5:00 pm. The route is an approximate 30 min loop making 8 stops on each loop as noted in the proposed brochure. The weekly cost to the Village for the trolley will be \$3,432.00 and will be paid for by the Hotel/Motel Tax Fund. On days the trolley is not available, a mini-bus would be substituted at a lower cost of \$2,707.00 per week (the mini-bus price would be given for the full week even if the bus is only substituted on one day). The total cost for the 11-week season would be \$31,227.

The consideration of this program was made possible as a result of increasing the hotel occupancy tax rate from 1% to 5% effective June 1, 2015. The increase enabled the Hotel/Motel Tax Fund to raise approximately \$183,000 additionally annually to be used towards eligible expenses of the fund.

ACTION PROPOSED: Pass the Ordinance.

ORDINANCE NO. 16-O-_____

AN ORDINANCE OF THE VILLAGE OF WILLOWBROOK
WAIVING BID AND ACCEPTING THE PROPOSAL OF
HUDSON GROUP, LTD. D/B/A THE TROLLEY CAR AND BUS COMPANY
FOR TROLLEY SERVICES WITHIN THE VILLAGE OF WILLOWBROOK
AND
AUTHORIZING THE EXECUTION OF A CONTRACT BETWEEN
HUDSON GROUP, LTD. D/B/A THE TROLLEY CAR AND BUS COMPANY
AND THE VILLAGE OF WILLOWBROOK

WHEREAS, the Village of Willowbrook (the "Village") wishes to provide a trolley service (the "Trolley") to assist Village residents and visitors with transportation to certain of the Village's destinations in 2016; and

WHEREAS, the Village staff has reviewed Trolley Car and Bus Company's ("Trolley Car") proposal for the service and has recommended that Trolley Car be awarded a contract for trolley service; and

WHEREAS, it is advisable, necessary, and in the public interest that the Village award the contract for the Project to Trolley Car in an amount not to exceed Thirty-One Thousand Two Hundred Twenty-Seven(\$31,227.00) Dollars.

NOW, THEREFORE, be it ordained by the Mayor and Board of Trustees of the Village of Willowbrook, DuPage County, Illinois, as follows:

Section 1: The corporate authorities hereby incorporate the foregoing preamble clauses into this Ordinance.

Section 2: The corporate authorities of the Village determine that competitive bidding for trolley service is hereby dispensed with and waived.

Section 3: It is hereby determined that it is advisable, necessary and in the public interest that the Village of Willowbrook accept the proposal from Trolley Car for trolley service in an amount not to exceed Thirty-One Thousand Two Hundred Twenty-Seven(\$31,227.00) Dollars.

Section 4: The Contract by and between Trolley Car and Bus Company and the Village for trolley service in substantially the form as that attached hereto as Exhibit "A" and made a part hereof, is hereby approved.

Section 5: The Village Administrator is hereby authorized and directed to execute the Contract, in substantially the form as that attached hereto, and to take all necessary steps to effectuate the terms thereof provided that Trolley Car returns to the Village a properly executed Contract with all other necessary written contract documents attached, along with the proper certificates of insurance.

Section 6: This Ordinance shall be in full force and effect upon its passage and approval in the manner provided by law.

ROLL CALL VOTE:

AYES: _____

NAYS: _____

ABSTENTIONS: _____

ABSENT: _____

APPROVED:

Mayor

ATTEST:

Village Clerk

EXHIBIT "A"

CONTRACT

The Trolley Car & Bus Company

Proudly serving Chicago and its surrounding suburbs since 1998
The Best Way to Keep the Party Rolling
630.350.RIDE (7433)

SERVICE AGREEMENT

Payment: The non-refundable and non-transferable deposit is required along with the signed quote/confirmation in order to reserve any vehicle, unless special arrangements have been agreed to. Final payment is due as noted on quote/confirmation. Accepted forms of payment include check, cash, debit and all major credit cards.

Cancellations/Changes: Deposit is always non-refundable and non-transferable. Additional cancellation policy applies as noted on quote/confirmation. Any changes to pick-up/drop-off times may constitute cancellation and re-booking at current rate structure. All cancellations/changes must be made in writing, mail, fax or e-mail.

Additional Time/Overtime: Addition to the scheduled time on confirmation, start time or extension of the end time will constitute overtime. Additional time as noted on quote/confirmation, subject to availability will be charged to credit card on file, or for check payments will be invoiced with payment expected within 14 days.

Equipment: The vehicle described in the quote/confirmation is subject to our providing the equipment and service. Every attempt is made to ensure the described vehicle is provided. In the unlikely event that the vehicle selected becomes unavailable due to unforeseen circumstances beyond our control, we reserve the right to provide alternative transportation. Refund or credit will be issued for any difference in cost of replacement vehicle, if one exists. Vehicles are air-conditioned and heated, however, temperatures are subjective and no refund or credits will be issued in the event either service become inefficient or inoperable.

Personal Belongings: We are not responsible for the loss or damage of any personal items or property. Designated contact person will be asked to sign drivers log confirming all personal property has been removed. Vehicle is unable to return after final drop-off time and location.

Liability: The Trolley Car & Bus Company will not be held liable for delays caused by an act of God, public enemies, perils of navigation, riots, authority of law, strikes, accidents, breakdowns, bad conditions of the road, inclement weather conditions, snow, rain storms, and other conditions beyond its control, and does not guarantee any arrival times. All efforts will be made to maintain the schedule in the confirmation but is not guaranteed if any of these conditions or any other condition beyond its control occur. Vehicles are to operate on paved surfaces only, unless special arrangements have been made. Hirer is responsible for all guest actions and any damage incurred to any vehicle during charter period. All vehicles are non-smoking for everyone's convenience. Vehicle must be left in the same condition as when the event commenced.

Gratuity: Driver gratuity is not included in our pricing and one is not charged. A typical gratuity of 10 to 12% percent is appreciated as this is the major source of income of a service paid employee.

Please sign and return with your completed quote.

See attached Exhibits "A", "B", "C", and "D", attached hereto and made a part hereof.

VILLAGE OF WILLOWBROOK

**HUDSON GROUP, LTD.
d/b/a The Trolley Car and Bus Company**

By: _____
Tim Halik, Village Administrator

By: _____
Damien Hudson

Group Exhibit "A"

The Trolley Car & Bus Company

226 Park St.
Bensenville, IL. 60106

2016 Village of Willowbrook Shuttle

To: Village of Willowbrook
Attn: Carrie Dittman
835 Midway Dr.
Willowbrook, IL. 60527

June 16, 2016
Office: 630.920.2235
Cell: _____
cdittman@willowbrook.il.us

QUOTE

Fridays				
Start:	Location TBA	Address TBA	Time:	6:00 pm
End:	Location TBA	Address TBA	Time:	11:00 pm
Saturdays				
Start:	Location TBA	Address TBA	Time:	11:00 am
End:	Location TBA	Address TBA	Time:	11:00 pm
Sundays				
Start:	Location TBA	Address TBA	Time:	11:00 pm
End:	Location TBA	Address TBA	Time:	5:00 pm

Pricing to be billed weekly at the below breakdown

Base Cost per Week (when trolley is used):	\$ 3,432.00
Base Cost per Week (when bus is substituted):	\$ 2,707.00
Total Cost (based on above schedule with 9 day bus substitutions):	\$31,227.00

Terms & Conditions

The Trolley Car & Bus Company is to provide shuttle service for the Village of Willowbrook each Friday, Saturday & Sunday starting July 01, 2016 and ending September 11, 2016. The Village of Willowbrook will provide stop locations and route. Drivers will operate a continuous shuttle for the contracted time and work to maintain the intended schedule. Drivers will also maintain ridership numbers and disseminate coupons, brochures or any literature if needed. Drivers are allowed quick breaks if needed. The Trolley Car & Bus Company will need to substitute a deluxe mini-coach bus for the following dates; July 1, 9, 23 & 30, August 6, 13 & 20, September 3 & 9. Vehicles are Not Dispatched without this signed agreement. Cancellations 72 to 24 hours prior to contracted start time are subject to a service fee of 50% percent of the total contracted rate. Cancellations within 24 hours are subject to 100% percent of the contracted rate. The trolley Car & Bus Company will send out monthly invoices for this service. Payment can be made by check or credit card and is expected within 30 days of invoice date. Additional time will be invoiced at \$100.00 per hour and \$75.00 for a half hour if needed. The Trolley Car & Bus Company asks to be named in promotional materials and advertising when possible. The Trolley Car & Bus Company will add the necessary entities to be covered as additionally insured to their insurance policy. All Vehicles are non-smoking for everyone's convenience. Thank You!

Signature: _____	Name: _____	Date: _____
Payment: Check Enclosed - Credit Card: No. _____ EXP: _____		
Amount Charged: \$ _____ CVV No. (Last 3 or 4 digits on back of credit card): _____		
Signature _____	Name _____	Date _____
Credit Card Billing address (if different than above)		
Street: _____	City: _____	State: _____ Zip: _____

Phone: 630.350.RIDE * info@trolleycar.net * Fax: 630.350.9898

Exhibit "B"

Proposed Trolley Route

Stop 1: La Quinta	:00 and :30
Stop 2: EconoLodge	:00 and :30
Stop 3: Kerry Piper	:05 and :35
Stop 4: Chicken Basket	:05 and :35
Stop 5: Red Roof Inn+	:10 and :40
Stop 6: Town Center	:15 and :45
Stop 7: TBD	:20 and :50
Stop 8: TBD	:20 and :50

return to La Quinta

EXHIBIT "C"
Contractor's Certification

The assurances hereinafter made by the Contractor are each a material representation of fact upon which reliance is placed by the Village of Willowbrook in entering into the contract with the Contractor. The Village of Willowbrook may terminate the contract if it is later determined that the Contractor rendered a false or erroneous assurance, and the surety providing the performance bond shall be responsible for the completion of the contract.

I, _____, hereby certify that I am the _____ of Hudson Group, Ltd. d/b/a The Trolley Car Company (the "Contractor") and as such, hereby represent and warrant to the Village of Willowbrook, a municipal corporation, that the Contractor and its shareholders holding more than five percent (5%) of the outstanding shares of the corporation, its officers and directors are:

- (A) not delinquent in the payment of taxes to the Illinois Department of Revenue in accordance with 65 ILCS 5/11-42.1-1;
- (B) not barred from contracting as a result of a violation of either Section 33E-3 (bid rigging) or 33E-4 (bid-rotating) of the Criminal Code of 1961 (720 ILCS 5/33E-3 and 5/33E-4);
- (C) not in default, as defined in 5 ILCS 385/2, on an educational loan, as defined in 5 ILCS 385/1.

In addition, the Contractor hereby represents and warrants to the Village of Willowbrook, that:

- (A) the Contractor has and will comply with all laws relating to the employment preference to veterans in accordance with the Veterans Preference Act (330 ILCS 55/0.01 *et seq.*), if applicable;
- (B) the Contractor has and will comply with all laws relating to the employment of Illinois workers in accordance with the Employment of Illinois Workers on Public Works Act (30 ILCS 570/1 *et seq.*), if applicable;
- (C) the Contractor, pursuant to 30 ILCS 580/1 *et seq.* ("Drug-Free Workplace Act"), will provide a drug-free workplace by:
 - (1) Publishing a statement:
 - (a) Notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance include cannabis, is prohibited in the Contractor's workplace;
 - (b) Specifying the actions that will be taken against employees for violations of such prohibition;

- (c) Notifying the employee that, as a condition of employment on such Contract, the employee will:
 - i. Abide by the terms of the statement;
 - ii. notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.
 - (2) Establishing a drug-free awareness program to inform employees about:
 - (a) the dangers of drug abuse in the workplace;
 - (b) the Contractor's policy of maintaining a drug-free workplace;
 - (c) any available drug counseling, rehabilitation, and employee assistance program; and
 - (d) the penalties that may be imposed upon employees for drug violations;
 - (3) Making it a requirement to give a copy of the statement required by Subsection (D)(1) to each employee engaged in the performance of the Contract, and to post the statement in a prominent place in the workplace;
 - (4) Notifying the Village within ten (10) days after receiving notice under paragraph (D)(1)c from an employee or otherwise receiving actual notice of such conviction;
 - (5) Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by any employee who is so convicted, as required by 30 ILCS 580/5;
 - (6) Assisting employees in selecting a course of action in the event drug counseling treatment and rehabilitation is required and indicating that a trained referral team is in place;
 - (7) Making a good faith effort to continue to maintain a drug-free workplace through implementation of this section;
- (D) the Contractor has not excluded and will not exclude from participation in, denied the benefits of, subjected to discrimination under, or denied employment to any person in connection with any activity funded under the contract on the basis of race, color, age, religion, national origin, disability, or sex;

- (E) the Contractor, at the time the Contractor submitted a Proposal on this contract, had an Illinois Department of Human Rights pre-qualification number or had a properly completed application for same on file with the Illinois Department of Human Rights, as provided for in 44 Illinois Administrative Code 750.210, if applicable;
- (F) no village officer, spouse or dependent child of a village officer, agent on behalf of any village officer or trust in which a village officer, the spouse or dependent child of a village officer or a beneficiary is a holder of any interest in the Contractor; or, if the Contractor's stock is traded on a nationally recognized securities market, that no village officer, spouse or dependent child of a village officer, agent on behalf of any village officer or trust in which a village officer, the spouse or dependent child of a village officer or a beneficiary is a holder of more than one percent (1%) of the contractor, but if any village officer, spouse or dependent child of a village officer, agent on behalf of any village officer or trust in which a village officer, the spouse or dependent child of a village officer or a beneficiary is a holder of less than one percent (1%) of such Contractor, the Contractor has disclosed to the Village in writing the name(s) of the holder of such interest.
- (G) no officer or employee and no spouse or immediate family member living with any officer or employee of the Village has solicited any gratuity, discount, entertainment, hospitality, loan, forbearance, or other tangible or intangible item having monetary value including, but not limited to cash, food and drink, and honoraria for speaking engagements related to or attributable to the government employment or the official position of the employee or officer from the Contractor in violation of the Willowbrook Municipal Code; and
- (H) the Contractor has not given to any officer, employee, spouse or immediate family member living with any officer or employee of the Village any gratuity, discount, entertainment, hospitality, loan, forbearance, or other tangible or intangible item having monetary value including, but not limited to cash, food and drink, and honoraria for speaking engagements related to or attributable to the government employment or the official position of the employee or officer in violation of the Willowbrook Municipal Code.
- (I) neither it nor any of its principals, shareholders, members, partners, or affiliates, as applicable, is a person or entity named as a Specially Designated National and Blocked Person (as defined in Presidential Executive Order 13224) and that it is not acting, directly or indirectly, for or on behalf of a Specially Designated National and Blocked Person and that the Contractor and its principals, shareholders, members, partners, or affiliates, as applicable, are not, directly or indirectly, engaged in, and are not facilitating, the transactions contemplated by this Agreement on behalf of any person or entity named as a specially Designated National and Blocked Person.

- (J) the Contractor acknowledges that, pursuant to the provisions of the Illinois Freedom of Information Act, (5 ILCS 140/1 *et seq.*), documents or records prepared or used in relation to work performed under this agreement are considered a public record of the Village and, therefore, within thirty (30) days of completion of the work required of the Contractor under this agreement, the Contractor shall produce to the Village, in electronic format, all records that directly relate to the governmental function performed by the Contractor under this agreement at no additional cost to the Village; and, furthermore, the Contractor shall review its records and promptly produce to the Village any additional records in the Contractor's possession which the Village requires in order to properly respond to a request made pursuant to the Illinois Freedom of Information Act (5 ILCS 140/1 *et seq.*), and the Contractor shall produce to the Village such records within three (3) business days of a request for such records from the Village at no additional cost to the Village.
- (K) Contractor further certifies that all drivers operating a motor vehicle pursuant to this agreement have valid Illinois Drivers' licenses including, but not limited to proper license classification to operate a "Trolley Bus" or substitute vehicle.

If any certification made by the Contractor changes, the Contractor shall notify the Village of Willowbrook in writing within seven (7) days.

Dated: _____, 2016

Contractor:

HUDSON GROUP, LTD.
d/b/a The Trolley Car Company

By: _____

STATE OF ILLINOIS)
) SS
COUNTY OF _____)

I, the undersigned, a notary public in and for the State and County aforesaid, hereby certify that _____, known to me to be the _____ of Hudson Group, Ltd. d/b/a The Trolley Car Company appeared before me this day in person and, being first duly sworn on oath, acknowledged that he executed the foregoing certification as his free act and deed.

Dated: _____, 2016

Notary Public

Group Exhibit "D"
Insurance Requirements

Contractor shall maintain during the entire term of the Agreement, the following insurance coverages, with the Village of Willowbrook named as additional insured:

a. Minimum Scope of Insurance

Coverage shall be at least as broad as:

- (1) Insurance Services Office Commercial General Liability occurrence form CG 0001 (Ed. 11/85);
- (2) Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile liability, symbol 01 "any auto" and endorsement CA 0029 (Ed. 12/88) changes in Business Auto and Truckers coverage forms – Insured Contract or ISO form number CA 0001 (Ed. 12/90); and
- (3) Worker's Compensation as required by the Labor Code of the State of Illinois and Employers' Liability Insurance.

b. Minimum Limits of Insurance

The Contractor shall maintain limits no less than:

- (1) Commercial General Liability Insurance. Comprehensive or Commercial general liability insurance, including, but not limited to coverage for bodily injury, personal injury, and property damage, and endorsements for failure to supply and pollution, shall be maintained at the sum(s) of one million dollars (\$1,000,000) per occurrence and two million dollars (\$2,000,000) aggregate;
- (2) Business Automobile Liability. Comprehensive automobile liability including, but not limited to non-ownership and hired car coverage as well as owned vehicles with coverage for bodily injury and property damage, shall be maintained at the sum(s) of five million dollars (\$5,000,000) per accident;
- (3) Workers Compensation Insurance. Workers Compensation coverage with statutory limits as may be required by the State of Illinois and Employers Liability coverage of:
 1. Each Accident \$1,000,000
 2. Disease-policy limit \$1,000,000
 3. Disease-each employee \$1,000,000

MINUTES OF THE REGULAR MEETING OF THE BOARD OF POLICE COMMISSIONERS
HELD ON MAY 20, 2016 AT THE VILLAGE HALL, 835 MIDWAY DRIVE,
WILLOWBROOK, DUPAGE COUNTY, ILLINOIS

1. CALL TO ORDER

The meeting was called to order by Chairman Schuler at the hour of 7:00 a.m.

2. ROLL CALL

Those present at roll call were Chairman William Schuler, Secretary Stephen Landsman, and Commissioner Joseph Heery. Also present were Village Administrator Timothy Halik, Chief of Police Mark Shelton, and Executive Secretary Cindy Stuchl.

ABSENT: None

A QUORUM WAS DECLARED

3. VISITORS' BUSINESS

None presented.

4. REVIEW AND APPROVE MINUTES - SPECIAL BOPC MEETING - APRIL 7, 2016

The Commission reviewed the April 7, 2016 minutes. Commissioner Heery related there was an error in his title.

MOTION: Made by Commissioner Heery, seconded by Secretary Landsman, to approve the April 7, 2016 as amended.

UNANIMOUS VOICE VOTE

MOTION DECLARED CARRIED

5. COMMUNICATIONS

None presented.

6. UNFINISHED BUSINESS

a. Discussion - Application/Testing Process.

Chairman Schuler reported that the Sergeants List will expire on November 8, 2016. Chief Shelton stated he will contact Selection Works to begin the testing process in August. This will allow the officers who are eligible and choose to participate sufficient

time to review the required materials. Written tests will be scheduled for September and oral interviews will be scheduled for October. Commissioner Heery commented -that having two (2) outside personnel to assist with the oral interviews was very useful.

Chairman Schuler reported that the Patrol Officer Eligibility List will expire on March 20, 2017. Chairman Schuler stated that the BOPC needs to determine how many applicants the Commission will invite to participate in the oral interview portion of the testing process. After discussion, the consensus was to conduct oral interviews with the top 25 applicants after the written exam. Time table was proposed to post an application notice in November, conduct written exams in January, and oral interviews in February.

Chairman Schuler asked Chief Shelton also to request the testing agency to provide procedures that the Commissioners will use for the new applicant oral interview process.

7. NEW BUSINESS

a. Discussion and Approval - Hiring of New Patrol Officer

Chief Shelton reported the need to hire two new patrol officers: one due to a retirement, the other because a recently hired officer resigned to accept a similar position at -another department.

The Commission recessed into Closed Session to discuss the potential new hires.

8. CLOSED SESSION

RECESS INTO EXECUTIVE SESSION

MOTION: Made by Commissioner Heery and seconded by Secretary Landsman to recess into Closed Session at the hour of 7:14 a.m.

ROLL CALL VOTE: AYES: Chairman Schuler, Secretary Landsman, and Commissioner Heery. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

The Commission reconvened the Regular Meeting at the hour of 7:30 a.m.

Those present at roll call after reconvening were Chairman William Schuler, Secretary Stephen Landsman, and Commissioner Joseph Heery.

ABSENT: None

Also present were Village Administrator Timothy Halik, Chief of Police Mark Shelton, and Executive Secretary Cindy Stuchl.

MOTION TO APPROVE - APPOINTMENT OF NEW HIRES

MOTION: Made by Commissioner Heery and seconded by Secretary Landsman to approve and accept the application of the new hire, Matthew Vanderjack, as presented.

ROLL CALL VOTE: AYES: Chairman Schuler, Secretary Landsman, and Commissioner Heery. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

MOTION: Made by Secretary Landsman and seconded by Commissioner Heery to approve and accept the application of the new hire, Joseph LaValle, as presented.

ROLL CALL VOTE: AYES: Chairman Schuler, Secretary Landsman, and Commissioner Heery. NAYS: None. ABSENT: None.

MOTION DECLARED CARRIED

Discussion began on the age and experience review that Chairman Schuler has requested. Chief Shelton advised that Deputy Chief Schaller completed the review. Chief Shelton stated that potentially within the next four years, there will be a turnover of the numbers of younger vs. older officers due to retirements.

9. ADJOURNMENT

MOTION: Made by Secretary Landsman, seconded by Commissioner Heery, to adjourn the meeting at the hour of 7:55 a.m.

UNANIMOUS VOICE VOTE

MOTION DECLARED CARRIED

PRESENTED, READ and APPROVED,

June 17 , 2016

Chairman

Minutes transcribed by Executive Secretary Cindy Stuchl.

MINUTES OF THE REGULAR MEETING OF THE FINANCE AND ADMINISTRATION COMMITTEE OF THE VILLAGE OF WILLOWBROOK HELD ON MONDAY, MAY 9, 2016 AT 5:30 P.M. AT THE VILLAGE HALL, 835 MIDWAY DRIVE, WILLOWBROOK, ILLINOIS.

1. CALL TO ORDER

The meeting was called to order by Trustee Neal at 5:36 p.m.

2. ROLL CALL

Those present at roll call were Trustee Gayle Neal and Director of Finance Carrie Dittman. Chairman Umberto Davi was absent.

3. APPROVAL OF MINUTES

Minutes of the Regular Finance/Administration Committee held on Monday, April 11, 2016 were reviewed.

Motion to approve made by Trustee Neal. Motion carried.

4. DISCUSSION – Update: Official Payments Credit Card Processing

Director of Finance Dittman described the process that the Village underwent to secure a new credit card provider, Official Payments, which began on July 28, 2015. After several discussions between staff, the Finance/Administration Committee and Official Payments, the final contract was approved by the Village board on November 9, 2015. The contract provided that VISA, MC and Discover would be accepted at both the Village and online for several payment types, among them utility bills, and that a convenience fee charged by Official Payments would be passed on to the customer.

After go-live occurred on March 1, 2016, the Village experienced intermittent issues with certain payment types not processing. After two months of conference calls, emails to support, a follow up visit from our Official Payments sales rep and conferences with our software provider BS & A, all with no explanation of the recurring problem or a solution, a different Official Payment sales rep stepped in and noted the card rejections were due to a VISA imposed rule that had not been noted in the contract nor brought to the Village's attention previously.

The Village has been in contact with Official Payments to find a solution to the VISA regulation and discussions are ongoing.

5. REPORT – Monthly Disbursement Reports – April 2016

The Committee reviewed and accepted the disbursement reports for the month of April and key items are highlighted below:

- Total cash outlay for all Village funds – \$1,003,924. Fiscal Year to Date is \$13,775,157.
- Payroll for active employees including all funds - \$533,906 (3 payrolls this month). The average payroll for the year was \$172,743.
- Average daily outlay of cash for all Village funds – \$33,464. Fiscal year to date daily average is \$37,643.
- Average daily expenditures for the General Fund - \$24,628. Fiscal year to date average is \$23,657.

6. REPORT – Sales Tax, Income Tax, Utility Tax, Places of Eating Tax, Fines, Red Light Fines, Building Permits, Water Revenues, Hotel/Motel Tax and Motor Fuel Tax

All revenues are fiscal year to date collections through April 30, 2016 (unaudited):

- Sales tax receipts - \$3,788,231 up 2.95% from the prior year. Trending 5.2% over budget.
- Income Tax receipts - \$910,130 up 8.82% compared to the prior year, 43.5% over budget. The budget had been reduced by 20% to plan for an anticipated reduction of funds from the State of Illinois, which has not yet occurred.
- Utility tax receipts - \$971,916 down 7.19% from the prior year, 9.6% under budget, consisting of:
 - Telecomm tax - \$425,374, up .89%.
 - Northern IL gas - \$116,451, down 37.97%
 - ComEd - \$433,460, down 1.75%
- Places of Eating Tax receipts - \$518,303 up 3.64% compared to the prior year, trending 12.7% over budget.
- Fines - \$132,993 down 22.07% compared with the prior year, 8.28% under budget. Fines come from County distributions and also local fine tickets written by Village police officers.
- Red Light Fines – \$383,179 down 38.57% from the prior year receipts, trending 29.0% below budget. Director Dittman reported that Chief Shelton had informed her that the 63rd Street cameras went down on May 22 and are not yet operational; IDOT has not granted permission to ATS to get this intersection back online yet, however they are expected to be live during the summer. We have budgeted no fine revenue from that intersection for the first 4 months of the new fiscal year.
- Building Permit receipts - \$368,613 up 3.9% from the prior year, and we have exceeded the annual budget by \$168,000.
- Water sales receipts - \$3,299,340 up 10.05% from the prior year, .50% below budget, attributable in part to the 12% rate increase effective 1/1/2015. Director Dittman noted that a rate increase does not necessarily equate to the same % increase in revenue as customers increase their water conservation when rates go up.
- Hotel/Motel Tax receipts - \$212,318 up 335.98% compared with the prior year, 1.1% above budget. The June 1 rate increase to 5% is now apparent beginning with the June tax payments received in July. 3 of the 4 hotels are open and active.
- Motor Fuel Tax receipts - \$218,871 down 22.68% compared with the prior year (due to the receipt of the IL Capital Bill last year), 7.7% above budget.

The reports above were approved by Trustee Neal.

7. VISITOR'S BUSINESS

There were no visitors present at the meeting.

8. COMMUNICATIONS

There were no communications received.

9. ADJOURNMENT

Motion to adjourn at 5:58 p.m. was made by Trustee Neal.

(Minutes transcribed by: Carrie Dittman, 5/17/2016)

MINUTES OF THE REGULAR MEETING OF THE MUNICIPAL SERVICES
COMMITTEE OF THE VILLAGE OF WILLOWBROOK HELD ON MONDAY,
MAY 9, 2016 AT THE VILLAGE HALL, 835 MIDWAY DRIVE, IN THE
VILLAGE OF WILLOWBROOK, DUPAGE COUNTY, ILLINOIS

1. CALL TO ORDER

Chairman Mistele called the meeting to order at 5:30 PM.

2. ROLL CALL

Those present at roll call were Chairman Michael Mistele, and Village Administrator Tim Halik. Absent: Trustee Paul Oggerino

3. APPROVAL OF MINUTES

- a) After review of the draft minutes from the February 8, 2016 regular meeting of the Municipal Services Committee, Chairman Mistele made a motion to approve the minutes as presented.

4. DISCUSSION – Phase II Master Facilities Plan: Police Building Renovation – Completion of Design Development

Administrator Halik advised the Committee that the Design Development Phase of the police renovation/expansion project is nearing completion. On April 18, 2016, the following list of documents were received from Williams architects for final review:

- ☐ Design Development Plans, consisting of one (1) bound set
- ☐ Project Manual, consisting of one (1) binder
- ☐ Product Data Catalog, consisting of one (1) binder

Halik advised that these documents were disseminated to the project development team for final review. Review comments have been identified and a meeting with Williams Architects will take place the week of May 9th to review all comments. Once all issues have been addressed, authorization to proceed to the Construction Document Phase will be given. Once authorization to begin the Construction Document Phase is provided to Williams, they will begin drafting construction drawings and all ancillary documentation, including bid documents, to enable the project to be issued for public bid. Halik advised that within the packet was the Project Schedule which depicts the duration of the Construction Documents Phase to be 12 weeks once authorization is received. The project will then be put out to public bid in August 2016.

5. DISCUSSION – Update: Status of IEPA Loan Approval / Standpipe Re-Painting Project

Administrator Halik advised the committee that staff continues to work towards obtaining final IEPA approval of our SRF Loan application and receiving a loan commitment. Halik shared that we seem to be nearing the end of the review phase of the loan application, have taken the necessary Board action, and have completed all public notice requirements. Halik also reminded the Committee that in February of this year we opened public bids for the blasting and repainting of the standpipe water tower. At that time, we received a very favorable bid price from Am-Coat Painting in the amount of \$931,000. This price was approximately \$600,000 lower than our engineers estimate of probable cost for this project. Therefore, we

really don't want to lose this bid, but Am-Coat's crews are very anxious to start the project. No work can start prior to receiving final loan approval from the IEPA. Halik shared that both he and the consulting engineer have been in contact with the owner of Am-Coat Painting, and have begun reviewing the project shop drawings. In addition, we have obtained a certificate of insurance from Am-Coat and have allowed them to begin mobilizing some of their equipment on the water tank site. Halik hopes that final IEPA approval is forthcoming so we can issue a Notice to Proceed to the contractor. Chairman Mistele encouraged staff to continue to work with the contractor as much as we can.

6. REPORT – Municipal Services Department

- a. Administrator Halik reviewed the monthly permit activity report for the months of February, March, and April 2016. Halik advised that the Village received about \$9,400 in permit revenue for the month of February, about \$32,000 in the month of March, and about \$25,600 in the month of April. Therefore, a total of \$369,447 in permit review was received in fiscal year 2015/16. This amount is 184% of the total budgeted amount of revenue of \$200,000. Chairman Mistele asked how much the anticipated revenue budget is for the current year. Halik said that he would look that number up and get back to him.
- b. Administrator Halik shared the water system pumpage report for March 2016. The report indicates that the Village pumped 26,552,000 gallons of water in the month, bringing the total amount pumped for the first eleven months of the fiscal year to 326,065,000 gallons. Halik stated that we have pumped about 1% more water so far this year as compared to the same time frame last year. Halik shared that we are on track in reaching our estimated pumpage projection of 350,000,000 gallons. A discussion ensued regarding the appropriate pumpage projection to be used for next fiscal year. After review of the usage trend and other factors pertaining to water consumption, etc., it was agreed that same 350,000,000 gallon figure should be used.
- c. Administrator Halik shared the February and March 2016 scavenger reports from the vendor, Republic Services. This report contains information pertaining to the tons of refuse and recyclable material collected by the scavenger in Willowbrook each month. Chairman Mistele that that the report contains good information.

7. VISITOR'S BUSINESS

(None)

8. COMMUNICATIONS

(None)

9. ADJOURNMENT

Motion to adjourn was made by Chairman Mistele. The meeting was adjourned at 5:40 PM.

(Minutes transcribed by: Tim Halik, 6/8/16)

MINUTES OF THE REGULAR MEETING OF THE PARKS AND RECREATION COMMISSION
HELD ON TUESDAY, MAY 3, 2016, AT THE VILLAGE HALL, 835 MIDWAY DRIVE,
WILLOWBROOK, DUPAGE COUNTY, ILLINOIS

1. CALL TO ORDER

Chairman Cobb called the meeting to order at the hour of 7:03 p.m.

2. ROLL CALL

Those present at roll call were Chairman Richard Cobb, Commissioners Ron Kanaverskis, Laurie Landsman, Rene Schuurman, and Doug Stetina.

ABSENT: Commissioners Lorraine Grimsby, Carol Lazarski, and at time of Roll Call --
Commissioner Robert Pionke

Also present was Temporary Interim Superintendent of Parks and Recreation John Fenske.

A QUORUM WAS DECLARED

3. APPROVAL OF MINUTES – APRIL 5, 2016

The Commission reviewed the April 5, 2016 minutes.

MOTION: A Motion was made by Commissioner Landsman and seconded by Commissioner Stetina to approve the April 5, 2016 minutes as presented.

ROLL CALL VOTE: AYES: Chairman Cobb, Commissioners Kanaverskis, Landsman, Schuurman, and Stetina. NAYS: None. ABSENT: Commissioners Grimsby, Lazarski, and Pionke.

MOTION DECLARED CARRIED

*** NOTE: Commissioner Pionke arrived at 7:07 p.m.

4. DISCUSSION – SPECIAL EVENT UPDATES/PLANNING

a. 2016 5K Fun Run – May 1, 2016

Commissioner Schuurman advised that prior to the race, 137 people were signed up. 95 runners completed the 5K portion and 28 runners completed the 1-mile portion. Given the weather conditions, Commissioner Schuurman related that it was a good turnout. More than double the amount of runners from last year.

Commissioner Schuurman stated that the Community Fair also had good attendance, however, due to the cold weather, everything was closed down sooner than expected. The only exhibitor that did not show up for the event was the Chicago Fire. Interim Superintendent Fenske advised that he

had received an email from the Chicago Fire. They had assumed that the conditions of the fields would be too wet.

Commissioner Schuurman advised that an after-event meeting will be held on Thursday, April 5th and a final report will be brought before the Commission for their next meeting.

b. Movie Night in the Park – July 15, 2016

Interim Superintendent Fenske will be meeting with representatives from Chick-fil-A to sponsor this event. The movie that will be shown has not been decided as of yet.

5. REPORT – WILLOWBROOK COMMUNITY RESOURCE CENTER (CRC) CONCEPTUAL DESIGN REPORT

The Commission reviewed the conceptual design report provided by Williams Architects. Commissioner Kanaverskis related that he would like to meet with the architects prior to final drawings. Interim Superintendent Fenske advised that this report does not include any fixtures or finishing work.

6. VISITORS' BUSINESS

There was no Visitors' Business.

7. COMMUNICATIONS

Interim Superintendent Fenske advised that he will be meeting with representatives from Gower PTO and the Burr Ridge Park District to begin plans for the Back to School Bash. The date for this event is tentatively set for August 16, 2016.

Interim Superintendent Fenske stated that he is looking for a softball supervisor for Tuesday and Wednesday nights if anyone knows somebody 18 years or older with a knowledge of softball.

Commissioner Pionke suggested hiring The Little People and a magician for the Parks Christmas Party. Suggestion was also made to invite past Park Commissioners and Park Superintendents since this will be the 40th Anniversary.

8. ADJOURNMENT

MOTION: Made by Commissioner Landsman, seconded by Commissioner Pionke to adjourn the meeting at the hour of 7:48 p.m.

Page 3
Parks and Recreation Commission Meeting
May 3, 2016

ROLL CALL VOTE: AYES: Chairman Cobb, Commissioners Kanaverskis, Landsman, Pionke, Schuurman, and Stetina. NAYS: None. ABSENT: Commissioners Grimsby and Lazarski.

UNANIMOUS VOICE VOTE

MOTION DECLARED CARRIED

PRESENTED, READ and APPROVED,

June 7, 2016

Chairman

Minutes transcribed by Executive Secretary Cindy Stuchl.

MINUTES OF THE REGULAR MEETING OF THE PLAN COMMISSION HELD ON WEDNESDAY, MAY 4, 2016, AT HINSDALE SOUTH HIGH SCHOOL, LITTLE THEATER, 7401 CLARENDON HILLS ROAD, CITY OF DARIEN, DUPAGE COUNTY, ILLINOIS

1. CALL TO ORDER

Chairman Kopp called the meeting to order at the hour of 7:00 p.m.

2. ROLL CALL

Those present at roll call were Commissioners Lacayo, Remkus, Soukup, Kaucky, Ruffolo, Vice-Chairman Wagner and Chairman Kopp. Also present were Village Planner Jo Ellen Charlton, Secretary Joanne Prible and Administrative Intern Tiffany Kolodziej.

3. OMNIBUS VOTE AGENDA

The items on the Omnibus Vote Agenda were as follows:

- A. Waive Reading of Minutes (APPROVE)
- B. Minutes – Special Meeting April 13, 2016 (APPROVE)
- C. Minutes – Village Board Meeting April 11, 2016

MOTION: Made by Vice-Chairman Wagner seconded by Commissioner Remkus, to approve the Omnibus Vote Agenda.

MOTION DECLARED CARRIED

4. PLAN COMMISSION CONSIDERATION: Zoning Hearing Case 16-02: (Greg and Arlene Taylor, 7806 Clarendon Hills Road) – Petition requesting approval of a variation from section 9-5B-3(D)4 to reduce the required rear yard setback from 30' to 23' to accommodate a sunroom addition on the rear of an existing structure.

- A. PUBLIC HEARING
- B. DISCUSSION

See Court Reporter Minutes

MOTION: Made by Commissioner Remkus, seconded by Commissioner Lacayo that based on the submitted petition and testimony presented, the approval of a setback variation from 30' to 23' to accommodate a 12'X14' sunroom use meets the standards for a variation setback as outlined in the staff report prepared for May 4, 2016 Plan Commission meeting and deliberated by the Plan Commission; therefore I move that the Plan Commission recommend approval of PC 16-02 subject to the following conditions:

1. The setback variation is authorized only for a 12'x14' sunroom addition.
2. The setback variation shall be null and void if construction of the proposed 12'x14' sunroom addition is not commenced pursuant to a duly issued permit within twelve (12) months of the date of any approval of the variation by the Village Board.

ROLL CALL: AYES: Commissioners Lacayo, Remkus, Soukup, Kaucky, Ruffolo, Vice-Chairman Wagner and Chairman Kopp; NAYS: None.

5. PLAN COMMISSION CONSIDERATION: Continuation of Zoning Hearing Case 16-04: (Pulte Home Corporation – 6526 Clarendon Hills Road) Approval of a special use for a Planned Unit Development and approval of a Preliminary Plat of PUD, preliminary plat of subdivision, and including any exceptions and variations necessary to redevelop the existing 8.32 acre property known as the Arabian Horse Farm with 29 detached single family cluster homes.

- A. PUBLIC HEARING
- B. DISCUSSION

See Court Reporter Minutes

MOTION: Made by Commissioner Ruffolo, seconded by Commissioner Remkus that based on the submitted petition and testimony presented, I recommend that the Plan Commission forward to the Village Board its findings with regard to the Special Use and PUD Standards and the required PUD Findings outlined in Exhibit 1 of the staff report addendum prepared for the May 4, 2016 Plan Commission meeting, and further that the Plan Commission recommend approval of a Preliminary Plat of PUD and Preliminary Plat of Subdivision for Carrington Club, including necessary exceptions and variations, associated with PC 16-04, subject to approval by the Village Board being in substantial compliance with the "Plan Documents" outlined in Exhibit 2 of the staff report addendum prepared for the May 4, 2016 Plan Commission meeting, except as outlined in Exhibit 3 as modified by item 2 requiring the size not exceed 100 square feet and not encroach upon any drainage areas. Deleting item 3 and adding an item 9 that before demolition an effort will be made to trap and transport rodents/wildlife, "Required Modifications/Conditions.

ROLL CALL: AYES: Commissioners Lacayo, Remkus, Soukup, Kaucky, Ruffolo, Vice-Chairman Wagner and Chairman Kopp; NAYS: None.

MOTION DECLARED CARRIED

6. VISITOR'S BUSINESS

None.

7. COMMUNICATIONS

None.

8. ADJOURNMENT

MOTION: Made by Commissioner Remkus, seconded by Commissioner Soukup, to adjourn the regular meeting of the Plan Commission at the hour of 9:30 p.m.

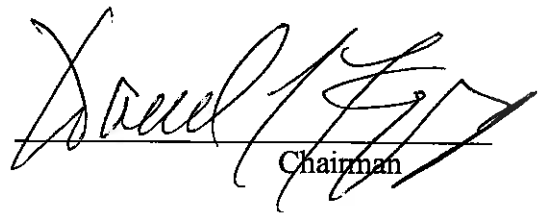
UNANIMOUS VOICE VOTE

MOTION DECLARED CARRIED

PRESENTED, READ AND APPROVED,

July 8, 2016

Minutes transcribed by Joanne Prible.


Chairman

AGENDA

Minutes of the Public Safety Committee of the Village of Willowbrook that was held on May 9th, 2016 at 5:30 p.m. at the Willowbrook Police Department, 7760 Quincy Street, in the Village of Willowbrook, DuPage County, Illinois.

CALL TO ORDER

The meeting was called to order at 5:30 p.m.

ROLL CALL

Those present at roll call were Chief Mark Shelton, Deputy Chief Robert Schaller, Chairman of the Public Safety Committee Terrence Kelly, and Trustee Sue Berglund.

1. Reviewed the April 11th, 2016 Public Safety Committee Meeting Minutes.
The Committee approved the April 11th, 2016 Public Safety Committee Meeting Minutes.
2. Reviewed the Weekly Press Releases – Information.
3. Reviewed the Overtime Report for 03/28/2016-04/24/2016 - Information.
4. Reviewed the Monthly Expenditure Report for April 2016 – Information.
5. Reviewed the Monthly Offense Summary Report for April 2016 - Information.
6. Reviewed the Letter(s) of Recognition and Appreciation – Information
 - Officer Lauren Kaspar
 - Officer Dave Gaddis
 - Officer Daniel Herrera
 - Officer Nick Volek
7. **DISCUSSION ITEMS**
 - Update - DUCOMM Changeover Review
Deputy Chief Schaller advised the Committee that the switch-over to the DuComm dispatch center occurred on April 25th. The computers in the squad cars are working well. Rich Kurtz from I.T. completed the installation of all the programs. DuComm personnel were at the police department to assist while MIDCO Phone Systems completed the phone transfers. All went well and the new dispatchers are very professional.
 - Annual Qualification Shoot – Scheduled for 05/10/2016
The Committee was advised that the annual qualification shoot is scheduled for May 10th, 2016. The qualification shoot will begin at 7:30a.m., and will continue throughout the day.
 - Training
Deputy Chief Schaller discussed current and upcoming scheduled training for future officers and explained additional departmental needs. The Committee was advised that Senior Officers are currently mentoring the Junior Officers and that training will be a continuous progression for the upcoming years due possible retirements. The Chief and Deputy Chief recognized that the certification training and on-the-job training with current officers has to be blended so when a

senior officer retires there is someone ready to take over. Both Trustees were in agreement that future planning and scheduled training is a priority.

The Chief provided the Committee with an update on the construction of the new police facility and also advised that the tentative move date to the temporary building will occur in early June.

- Update – Deputy Chief Schaller

- 7-Eleven Operation Chill

Deputy Chief Schaller advised the Committee that the 7-Eleven Operation Chill is a summer program where Officers distribute a “ticket” for a free Slurpee to youths throughout the community to reward good behavior.

- Patches For Buckley

Deputy Chief Schaller advised that our agency participated in the Honoring America’s Heroes Campaign. Department patches were sent to an officer, who had been wounded in the line of duty, to be included in the officer’s “Patches 4 Buckley” police patch collection. This is a large collection of patches and can be viewed on Facebook.

8. * VISITOR'S BUSINESS (Public comment is limited to three minutes per person).

9. ADJOURNMENT

The meeting was adjourned at 5:56p.m.

NEXT MEETING SCHEDULED JUNE 13TH, 2016 AT 5:30 P.M.